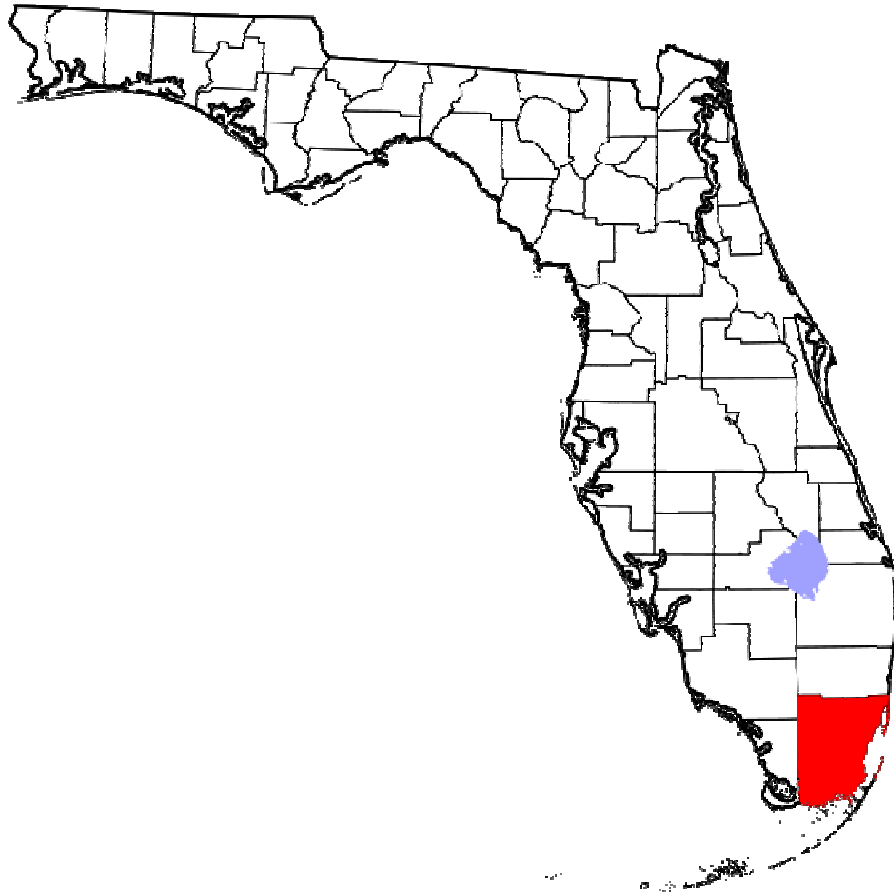


# **Child Unintentional Injury in Miami-Dade County, FL 2007-2009**



## **Produced by the Miami-Dade County Injury Surveillance System**

Prepared by Stephen Dearwater, Injury Epidemiologist  
Injury Free Coalition for Kids

Data Sources:      Death Certificates: Office of Vital Statistics, FL Dept. of Health  
                          Death Investigations: Miami-Dade County Medical Examiners Dept.  
                          Hospital Discharge & Emergency Dept Data: FL Agency for Health Care Admin.  
                          Traffic Crash Reports: FL Dept. of Highway Safety & Motor Vehicles

Technical Note: The death certificate data for 2009 included in this report represents data that had not been finalized by the Dept. of Health at the time of this publication. The 2009 death data represents between 97-100% of all child injury deaths and will be updated when the final data is released in November 2010 if there are any changes in the final numbers.

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# Leading Causes of Death, 2008

## Miami-Dade County Residents Aged 0-17

- Unintentional injury remains the leading cause of death during 2008 for county residents aged 1 through 17 and the 3<sup>rd</sup> leading cause of death for infants < 1 year old.
- Homicide ranked among the top 4 causes of death for children aged 1 through 17.
- Injury was responsible for the top 3 causes of death to county adolescents aged 15-17 years.

Rank	Age Group				
	< 1	1-4	5-9	10-14	15-17
1	Congenital Malformations (128)	Unintentional Injury (36)	Unintentional Injury (16)	Unintentional Injury (23)	Unintentional Injury (55)
2	Short Gestation (97)	Cancer (12)	Cancer (8)	Cancer (14)	Homicide (44)
3	Unintentional Injury (31)	Congenital Malformations (9)	Homicide (4)	Homicide (9)	Suicide (8)
4	Bacterial Sepsis (27)	Homicide (8)	Congenital Malformations (3)	Congenital Malformations (5)	Cancer (4)
5	Neonatal Hemorrhage (20)	Diseases of Nervous System (5)	Cerebral Palsy (2)	Heart Disease (4)	Heart Disease (4)
6	Circulatory Diseases (19)	Digestive Diseases (5)	HIV (2)	Cerebral Palsy (2)	Congenital Malformations (2)
7	Maternal Pregnancy Comps. (18)	Respiratory Diseases (4)	Heart Disease (2)	Benign Neoplasms (2)	14 Causes Tied with 1 Death
8	Respiratory Distress (15)	15 Other Causes with < 4 Deaths	Chronic Lower Resp. Disease (2)	Suicide (1)	
9	Interstitial Emphysema (12)		Epilepsy (2)	13 Causes Tied with 1 Death	
10	SIDS (12)		11 Causes Tied with 1 Death		

# Leading Causes of Injury Death, 2008

## Miami-Dade County Residents Aged 0-17

- Unintentional suffocation, most often in a crib or adult bed, was the leading cause of injury-related death to infants < 1 year old.
- Drowning was a cause of death for every age group in 2008 but was the leading cause of injury death to children aged 1-9. The age group 1-4 accounted for more than one-half of the drowning deaths for this age group, usually in a residential swimming pool.
- Firearm-related homicide affected every age group but was the leading cause of injury death for children aged 10-17.
- Motor vehicle crashes, nationally the leading cause of death for children 1-17 years old, were the 2<sup>nd</sup> leading cause of death to children aged 10-17 in Miami-Dade County.
- Pedestrian deaths ranked between the 2<sup>nd</sup> and 4<sup>th</sup> leading cause of injury-related death for the 4 age groups greater than 1 year old.

Rank	Age Group				
	< 1	1-4	5-9	10-14	15-17
1	Unintent: Suffocation (27)	Unintent: Drowning (19)	Unintent: Drowning (4)	Homicide: Firearm (8)	Homicide: Firearm (43)
2	Homicide: Unspecified (2)	Unintent: Pedestrian (7)	Unintent: Pedestrian (3)	Unintent: MV Occupant Crash (7)	Unintent: MV Occupant Crash (28)
3	Homicide: Firearm (1)	Homicide: Unspecified (4)	Homicide: Firearm (2)	Unintent: Pedestrian (4)	Unintent: Drowning (7)
4	Homicide: Cut (1)	Unintent: Fire (3)	Homicide: Unspecified (1)	Unintent: Drowning (2)	Unintent: Pedestrian (5)
5	Unintent: Drowning (1)	Unintent: Poison (3)	Unintent: Machinery (1)	Homicide: Poison (2)	Suicide: Hanging (4)
6	Unintent: Fire (1)	Homicide: Firearm (3)	Unintent: Other Transport (1)	6 Injuries Tied with 1 Death	Homicide: Cut (2)
7	Unintent: Poison (1)	Unintent: MV Occupant Crash (2)	Homicide: Cut (1)		Suicide: Poison (2)
8	Unintent: Fall (1)	Unintent: Struck By/Against (1)	Unintent: Other or Unspec. (2)		Suicide: Firearm (2)
9		Unintent Suffocation (1)			Unintent: Other Transportation (2)
10		Homicide: Cut (1)			9 Injuries Tied with 1 Death

# Unintentional Injuries Resulting in Death or Hospitalization Miami-Dade Residents vs. Florida Residents Aged 0-17, 2007-2009

The table below combines unintentional injuries that resulted in either death or hospitalization and contrasts the injuries rates of Miami-Dade County children aged 0-17 years with statewide injury rates. The county rates in the "Total Injury" table were slightly higher than the state for all three categories of injury intent but these differences were not significant.

Unintentional fall injury was the only type of unintentional injury that was significantly higher in Miami-Dade Co. than the state. Children aged < 1 year and 5-9 years were most at-risk for unintentional fall injuries.

Injury that resulted from "Other Transport" (ATV, railway, animal, etc.) was the only type of unintentional injury that was significantly lower in Miami-Dade Co. than the state.

## Total Injuries By Intent and Age Group

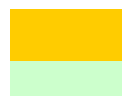
Rank/Intent	< 1	1-4	5-9	10-14	15-17	Total	M-D Rate	FL Rate
1. Unintentional	109	333	249	299	306	1,296	217.1	203.1
2. Assault	16	6	3	17	78	118	19.8	15.2
3. Self-Inflicted	0	1	1	25	74	100	16.8	15.2
<b>Total *</b>	<b>128</b>	<b>346</b>	<b>256</b>	<b>350</b>	<b>477</b>	<b>1,556</b>	<b>260.6</b>	<b>243.6</b>
<b>2007-09 Avg. Population</b>	<b>33,700</b>	<b>134,174</b>	<b>164,181</b>	<b>160,739</b>	<b>104,452</b>	<b>597,246</b>		

## Unintentional Injuries By Mechanism and Age Group

Rank/Mechanism	< 1	1-4	5-9	10-14	15-17	Total	M-D Rate	FL Rate
1. Fall	48	102	120	96	53	419	70.2	58.0
2. Motor Vehicle Occupant	4	12	24	35	74	149	24.9	27.0
3. Struck by, Against	4	18	15	38	43	118	19.8	16.1
4. Poison	7	71	7	10	18	113	18.9	16.8
5. Pedestrian	0	12	14	24	15	65	10.8	8.8
6. Pedal Cycle	0	6	12	22	14	54	9.1	9.1
7. Drowning	1	33	7	4	7	51	8.5	7.9
8. Other Transport	0	2	5	16	13	36	6.0	10.5
9. Environment, Natural	2	10	10	4	7	33	5.5	6.9
10. Hot Substance	4	20	3	2	1	32	5.3	7.2
11. Cut, Pierce	0	4	6	11	9	30	5.0	3.3
12. Overexertion	1	0	2	10	10	24	4.0	2.9
13. Motorcycle	0	1	1	6	14	22	3.7	2.9
14. Suffocation	12	4	1	0	0	18	3.0	4.5
15. Firearm	0	1	0	1	7	9	1.5	1.3
<b>Total</b>	<b>109</b>	<b>333</b>	<b>249</b>	<b>299</b>	<b>306</b>	<b>1,296</b>	<b>217.1</b>	<b>203.1</b>

\* Totals may include deaths classified as undetermined intent

# Rates not calculated for mechanisms with less than 5 cases



rate is significantly higher than Florida

rate is significantly lower than Florida

# Unintentional Injuries Resulting in Death, Hospitalization or ED Visit Miami-Dade Residents vs. Florida Residents Aged 0-17, 2007-2009

The table below adds injury ED visits to deaths and hospitalizations to provide a measure of all fatal and medically treated injuries. Miami-Dade's unintentional injury rates were significantly lower than the state rates for most of the causes of injury except unintentional falls.

These rates reflect more minor injuries, which are far more numerous (ED visits account for 95% of all these injuries). The lower injury rates may relate to a number of factors, including differences in knowledge and behavior that lead to prevention of injury or differences in health care-seeking behaviors after a minor injury.

## Total Injuries By Intent and Age Group

Rank/Intent	< 1	1-4	5-9	10-14	15-17	Total	M-D Rate	FL Rate
1. Unintentional	2,448	15,067	11,293	12,014	7,648	48,471	8,115.7	9,267.9
2. Assault	19	34	75	359	719	1,206	202.0	239.0
3. Self-Inflicted	0	3	2	61	182	249	41.6	63.2
<b>Total *</b>	<b>2,511</b>	<b>15,385</b>	<b>11,544</b>	<b>12,669</b>	<b>8,858</b>	<b>50,967</b>	<b>8,533.7</b>	<b>9,862.7</b>
<b>2007-09 Avg. Population</b>	<b>33,700</b>	<b>134,174</b>	<b>164,181</b>	<b>160,739</b>	<b>104,452</b>	<b>597,246</b>		

## Unintentional Injuries By Mechanism and Age Group

Rank/Mechanism	< 1	1-4	5-9	10-14	15-17	Total	M-D Rate	FL Rate
1. Fall	1,409	6,544	4,520	3,905	1,560	17,938	3,003.5	2,868.3
2. Struck by, Against	183	2,378	2,392	3,131	1,951	10,034	1,680.0	2,109.1
3. Overexertion	66	753	552	1,303	1,037	3,711	621.3	680.8
4. Environment, Natural	210	1,219	771	446	247	2,893	484.4	623.4
5. Cut, Pierce	37	621	691	665	487	2,501	418.8	604.9
6. Motor Vehicle Occupant	84	269	374	454	774	1,955	327.4	525.1
7. Poison	1	99	264	345	143	852	142.6	160.5
8. Pedal Cycle	58	544	62	57	83	804	134.7	237.3
9. Hot Substance	39	280	103	71	63	556	93.0	116.7
10. Pedestrian	1	34	54	102	89	280	46.9	48.1
11. Other Transport	1	26	48	85	71	232	38.8	106.6
12. Motorcycle	1	3	10	30	55	100	16.7	19.3
13. Drowning	2	51	11	8	12	84	14.0	16.8
14. Fire	7	25	12	13	13	70	11.7	21.5
15. Suffocation	14	12	2	1	1	30	5.0	14.0
<b>Total</b>	<b>2,448</b>	<b>15,067</b>	<b>11,293</b>	<b>12,014</b>	<b>7,648</b>	<b>48,471</b>	<b>8115.7</b>	<b>9,267.9</b>

\* Totals may include deaths classified as undetermined intent

# Rates not calculated for mechanisms with less than 5 cases



rate is significantly higher than Florida

rate is significantly lower than Florida

## Injury Rate Trends for Children Aged 0-17, 2005-2009

The table below shows the 5-year trends in injury rates for unintentional injury and all injury, broken down by three levels of injury severity: deaths, hospitalizations and emergency department visits.

Because child injury rates can vary greatly from year-to-year, 3-year average rates were computed for the time periods 2005-2007 and 2007-2009 to provide more stable rates to examine change over time.

Between 2005-07 and 2007-09, the unintentional injury rates for county children increased <2% for hospitalizations and emergency department visits while the unintentional death rate was essentially unchanged.

Total injury rates between 2005-07 and 2007-09 were slightly lower for deaths, largely driven by a decline in suicides. Injury hospitalizations remained essentially unchanged and emergency department injuries increased 2% over this 2-year period.

Intent	2005 rate*	2006 rate*	2007 rate*	2008 rate*	2009 rate*	2005-07 rate*	2007-09 rate*	05-07 vs. 07-09 % Change
<b>Unintentional</b>								
Death	8.4	6.2	11.7	6.4	8.4	8.8	8.8	0.7%
Hospitalization	206.2	196.8	211.7	208.4	204.7	204.9	208.2	1.6%
ED Visit	7,776.8	7,847.6	7,671.4	7,931.2	8,094.5	7,765.3	7,899.0	1.7%
<b>All Injury</b>								
Death	21.9	22.8	32.4	20.4	23.2	25.7	25.3	-1.5%
Hospitalization	255.2	237.2	249.1	251.0	243.6	247.2	247.9	0.3%
ED Visit	8,134.3	8,171.4	8,019.9	8,285.4	8,515.6	8,108.5	8,273.6	2.0%

\* Rate per 100,000 population

Red percentages indicate the 2007-09 avg. injury rate increased compared to the 2005-07 rate

Blue percentages indicate the 2007-09 avg. injury rate decreased compared to the 2005-07 rate

# Unintentional Injury Rate Trends by Mechanism, 2005-2009

The table below shows 5-year injury rates for specific mechanisms of unintentional injury, broken down by three levels of injury severity: deaths, hospitalizations and emergency department visits. Three-year average rates were again computed to examine change over time.

The greatest increases in unintentional injury rates were observed for:

- 1) Nonfatal poisoning, with hospitalized and ED visit rates increasing between 18.9-26.2%.
- 2) Drowning, with all three severity measures increasing between 10.6-33.0%;

The greatest declines in unintentional injury rates were observed for:

- 1) Motorcycle injuries, with hospitalized and ED visit rates decreasing between 31.2-40.4%.
- 2) Nonfatal motor vehicle injuries, with hospitalized and ED visits decreasing between 14.0-20.3%.
- 3) Pedestrian injuries, with hospitalized and ED visit rates decreasing between 11.2-15.6%.

Unintentional Mechanism	2005 rate*	2006 rate*	2007 rate*	2008 rate*	2009 rate*	2005-07 rate*	2007-09 rate*	05-07 vs. 07-09 % Change
Fall								
Death	*	*	*	*	*	*	*	*
Hospitalization	61.9	67.7	67.0	71.1	71.7	65.5	69.9	6.7%
ED Visit	2,752.3	2,828.3	2,781.8	2,909.0	3,110.3	2,787.5	2,933.7	5.2%
Poisoning								
Death	*	*	*	*	*	*	*	*
Hospitalization	14.9	14.4	14.7	22.9	18.0	14.7	18.5	26.2%
ED Visit	88.9	96.0	107.2	126.9	113.2	97.4	115.8	18.9%
Drowning								
Death	2.5	0.8	3.2	1.5	2.7	2.2	2.5	12.9%
Hospitalization	5.5	4.9	7.0	6.5	5.7	5.8	6.4	10.6%
ED Visit	3.3	5.5	5.3	6.7	6.9	4.7	6.3	33.0%
Motor Vehicle Occup.								
Death	2.0	1.7	3.0	1.5	2.5	2.2	2.3	5.1%
Hospitalization	29.0	26.7	29.4	17.9	20.5	28.3	22.6	-20.3%
ED Visit	349.5	380.6	325.1	288.3	294.4	351.7	302.6	-14.0%
Pedestrian								
Death	1.2	1.3	1.7	*	*	*	*	*
Hospitalization	13.1	11.6	10.9	9.0	10.1	11.8	10.0	-15.6%
ED Visit	42.8	39.3	39.6	37.1	31.4	40.6	36.0	-11.2%
Pedal Cyclist								
Death	*	*	*	*	*	*	*	*
Hospitalization	9.4	8.7	9.0	9.0	9.1	9.0	9.0	0.0%
ED Visit	180.4	144.9	132.1	134.1	134.3	152.5	133.5	-12.4%
Motorcycle								
Death	*	*	*	*	*	*	*	*
Hospitalization	6.2	7.1	5.0	4.3	1.5	6.1	3.6	-40.4%
ED Visit	20.8	16.3	19.4	11.0	8.4	18.8	12.9	-31.2%

\* Rate per 100,000 population; rates and trends were not calculated for years with < 5 injuries  
 Red percentages indicate the 2007-09 avg. injury rate increased compared to the 2005-07 rate  
 Blue percentages indicate the 2007-09 avg. injury rate decreased compared to the 2005-07 rate

## Costs of Hospitalized Unintentional Injuries, 2009

Injury-related hospital discharges for 2009 resulted in nearly \$32 million in total hospital charges. Hospital charges do not correlate with the prevalence of the injury. For example, while child pedestrian injuries accounted for only 5 percent of all hospitalizations, the charges for pedestrian injuries rank 3<sup>rd</sup> at 11% of total injury charges. Conversely, poisoning accounted for 9% of all injury hospital discharges and but only 4% of all charges.

The highest median hospital charge was \$61,169 for the 9 motorcycle injuries. The second highest median charge was for pedestrian injuries at \$32,757 per hospitalization.

Unintentional fall injuries accounted for more than a quarter of all injury-related hospital charges in 2009.

Unintentional Injury Mechanism	Number	Percent of Total Discharges	Median Charge	Total Charges	Percent of Total Charges
Fall	427	35%	\$15,462	\$8,305,176	26%
Motor Vehicle Occupant	122	10%	\$32,565	\$5,673,059	18%
Pedestrian	60	5%	\$32,757	\$3,482,996	11%
Struck by, Against	120	10%	\$16,982	\$2,587,150	8%
Drowning	32	3%	\$10,795	\$1,856,417	6%
Pedal Cycle	54	4%	\$18,369	\$1,492,971	5%
Poison	107	9%	\$7,324	\$1,286,875	4%
Other Transport	25	2%	\$31,903	\$858,663	3%
Environment, Natural	34	3%	\$12,166	\$758,733	2%
Hot Substance	40	3%	\$12,456	\$757,513	2%
Motorcycle	9	1%	\$61,169	\$580,613	2%
Overexertion	21	2%	\$24,631	\$559,787	2%
Cut, Pierce	25	2%	\$18,774	\$519,454	2%
Firearm	6	0%	\$28,362	\$245,924	1%
Suffocation	7	1%	\$13,499	\$176,843	1%
Machinery	3	0%	\$16,654	\$40,219	0%
Fire	3	0%	\$13,099	\$37,741	0%
Other & Unspecified	123	10%	\$14,014	\$2,538,535	8%
<b>All Unintentional Injuries</b>	<b>1,218</b>	<b>100%</b>	<b>\$16,030</b>	<b>\$31,758,669</b>	<b>100%</b>

## Costs of Emergency Dept. Unintentional Injuries, 2009

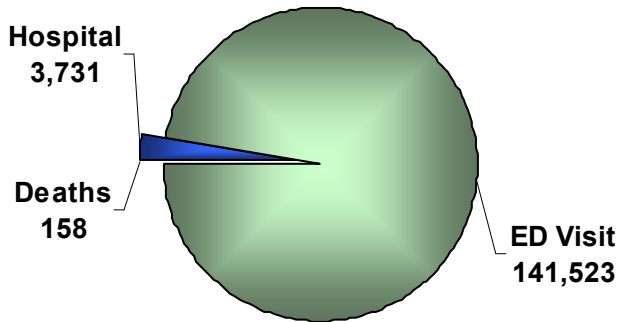
Injury-related ED visits for 2009 resulted in more than \$79 million in total hospital charges and a median charge per visit of \$1,126.

Unintentional fall injuries accounted for more than a one-third of all ED visits and 41% of all injury-related ED charges in 2009. Being unintentionally struck by a person or object was second leading cause of ED visits and accounted for 19% of all ED charges.

The highest median ED charge was \$4,131 for the 10 firearm injuries, nearly twice the cost of the second highest mechanism, pedestrian injuries, with a median charge of \$2,135 per ED visit.

Unintentional Injury Mechanism	Number	Percent of Total Discharges	Median Charge	Total Charges	Percent of Total Charges
Fall	18,511	38%	\$1,183	\$32,404,959	41%
Struck by, Against	9,615	20%	\$1,124	\$14,995,451	19%
Motor Vehicle Occupant	1,751	4%	\$1,364	\$5,418,638	7%
Overexertion	3,488	7%	\$1,306	\$5,381,070	7%
Cut, Pierce	2,160	4%	\$1,183	\$3,076,142	4%
Environment, Natural	3,030	6%	\$515	\$2,981,525	4%
Pedal Cycle	799	2%	\$1,831	\$2,061,759	3%
Poison	674	1%	\$950	\$1,202,789	2%
Pedestrian	187	< 1%	\$2,135	\$706,162	< 1%
Other Transport	187	0%	\$1,729	\$587,211	< 1%
Hot Substance	528	1%	\$837	\$556,849	< 1%
Motorcycle	50	< 1%	\$2,555	\$264,027	< 1%
Drowning	37	< 1%	\$1,672	\$103,055	< 1%
Fire	63	< 1%	\$800	\$77,877	< 1%
Machinery	18	< 1%	\$1,676	\$44,288	< 1%
Firearm	10	< 1%	\$4,131	\$40,039	< 1%
Suffocation	11	< 1%	\$1,194	\$15,410	< 1%
Other & Unspecified	7,056	15%	\$899	\$9,197,229	12%
<b>All Unintentional Injuries</b>	<b>48,175</b>	<b>100%</b>	<b>\$1,126</b>	<b>\$79,114,480</b>	<b>100%</b>

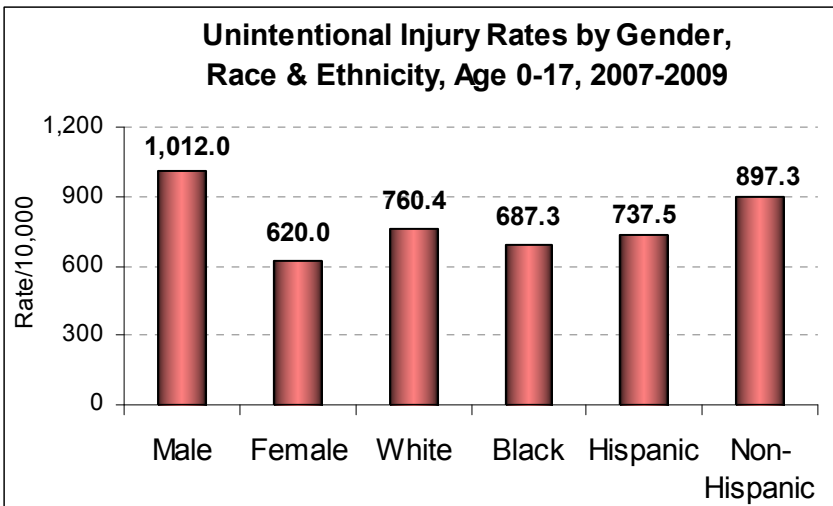
# Unintentional Injuries, 2007-2009



- Between the years 2007-2009, 145,412 unintentional injuries occurred to children 0-17 years old. There were 158 deaths (<1%), 3,731 hospitalizations (3%) and 141,523 ED visits (97%).
- Drowning (n=44) and motor vehicle crashes (n=42) were the leading causes of fatal unintentional injury. There were 28 suffocation deaths during 2007-2009, 20 of which were infant crib or co-sleeping deaths.
- Falls were responsible for 34% of unintentional hospitalizations and 37% of unintentional ED visits.
- Being struck by or against a person or object in a sports or recreation activity was the 4<sup>th</sup> leading cause of hospitalization and 5<sup>th</sup> cause of ED visits.

## Five Leading Causes of Unintentional Injury by Severity

Deaths Mechanism (#)	Hospitalizations Mechanism (#)	ED Visits Mechanism (#)
1. Drowning (44)	1. Fall (1,253)	1. Fall (52,558)
2. Motor Vehicle Occupant (42)	2. Motor Vehicle Occupant (405)	2. Overexertion (11,060)
3. Suffocation (28)	3. Poisoning (332)	3. Environmental (8,582)
4. Pedestrian (15)	4. Struck by in Sports/Rec. (182)	4. Cut, Pierce (7,413)
5. Poisoning (6)	5. Pedestrian (179)	5. Struck by in Sports/Rec. (7,350)



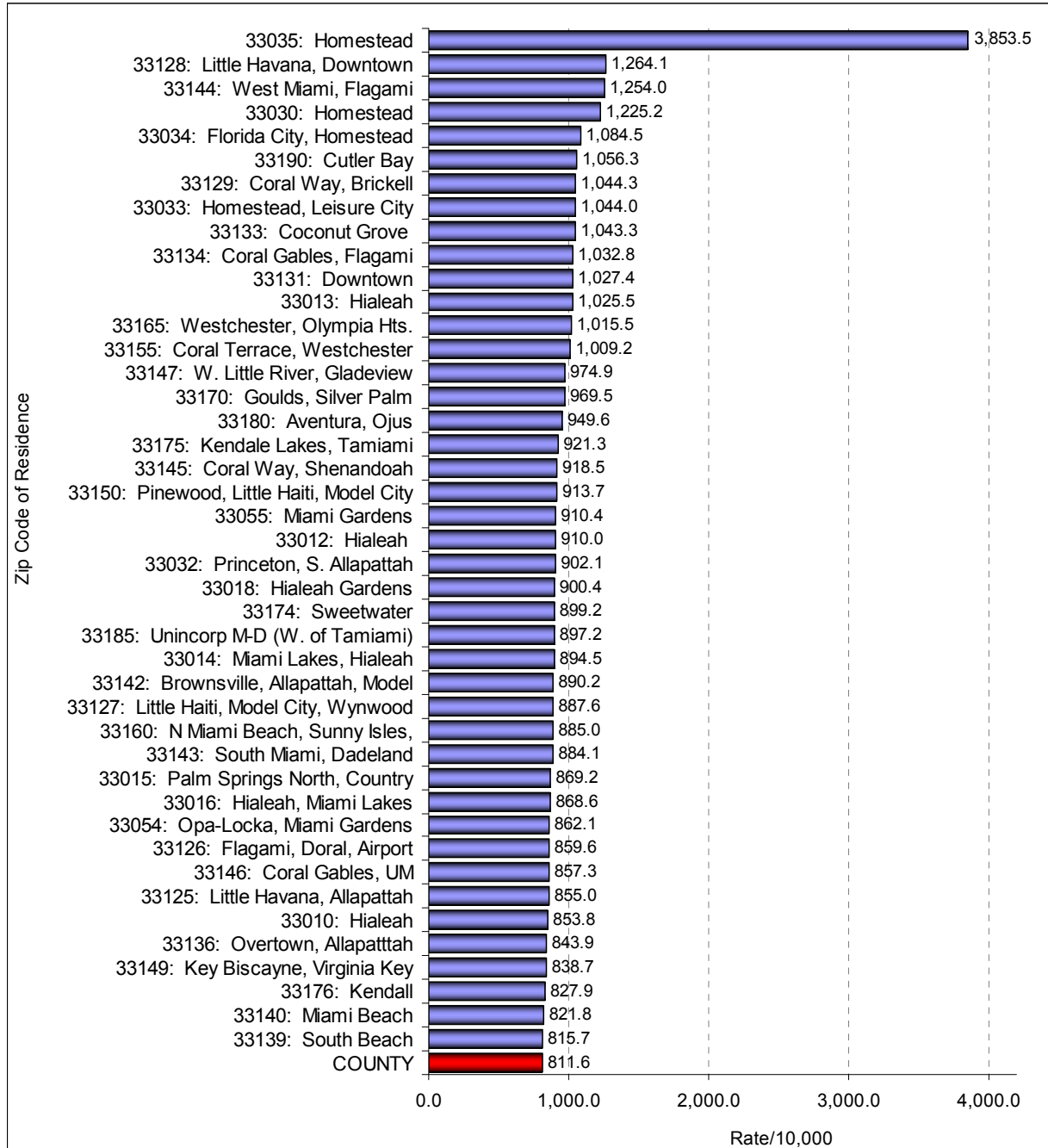
- Male children had an unintentional injury rate 39% higher than females.
- The unintentional injury rate for white children was 11% higher than the rate observed for black children.
- Hispanic children had a 22% lower unintentional injury rate than non-Hispanic children.

## Total Unintentional Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

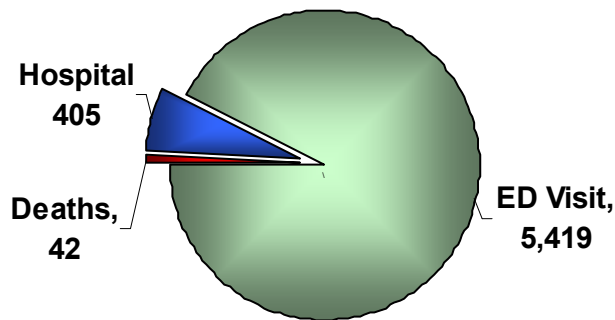
The graph below shows those residential zip codes of the county that had higher child unintentional injury rates than the Miami-Dade County rate during the years 2007-2009.

The areas of the county with the highest rates were:

1. The 4 zip codes in the Homestead/Florida City area of the county (33035, 33030, 33034, 33033) with the 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup> and 8<sup>th</sup> highest unintentional injury rates.
2. The zip code 33128 representing sections of Little Havana and Downtown Miami.
3. The zip code 33144 representing West Miami and the Flagami section of the City of Miami.



# Motor Vehicle Crash Injuries, 2007-2009

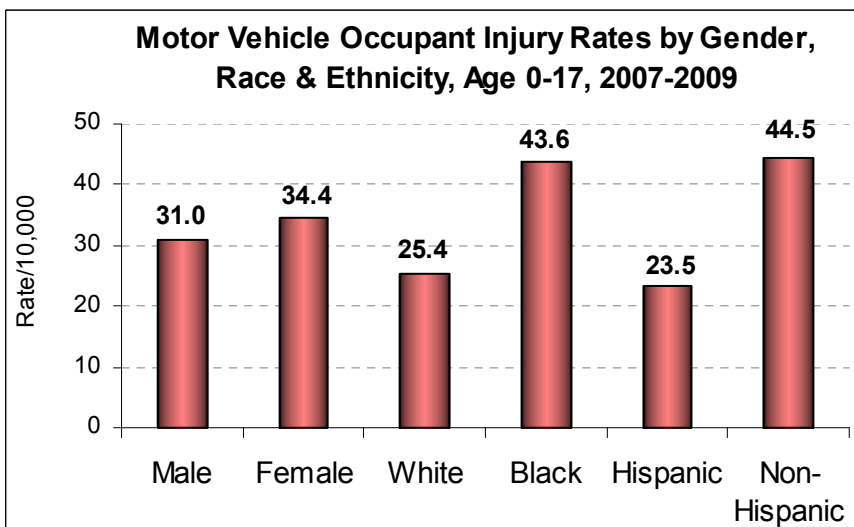


- Between the years 2007-2009, 5,866 children age 0-17 were injured as occupants in motor vehicle crashes. There were 42 deaths (<1%), 405 hospitalizations (7%) and 5,419 ED visits (92%).

## Leading Principal Injury Diagnoses for Motor Vehicle Injuries

Severity	Diagnosis & Body Region (%)
<b>Deaths</b>	Presence of TBI (42%)
<b>Hospitalizations</b>	Internal Head Injuries (20%)
	Lower Extremity Fractures (13%)
	Internal Injuries: Torso (11%)
	Skull Fractures (10%)
	Open Wounds: Head & Neck (7%)
<b>ED Visits</b>	Superficial/Contusions: Head (17%)
	Vertebral Sprains/Strains (15%)
	Superficial: Upper Extremity (8%)
	Superficial: Lower Extremity (7%)
	Open Wounds: Head & Neck (7%)

- Traumatic brain injury (TBI) was the leading injury diagnosis for all 3 severity levels of motor vehicle crash injuries. TBI was present in 42% of the fatalities and 30% of the hospitalizations (20% internal head injury, 10% skull fracture). Nearly one-fourth of the ED visits sustained either a superficial or open wound of the head.
- Vertebral sprains and strains were the second leading cause of child ED visits from motor vehicle crashes (15%).



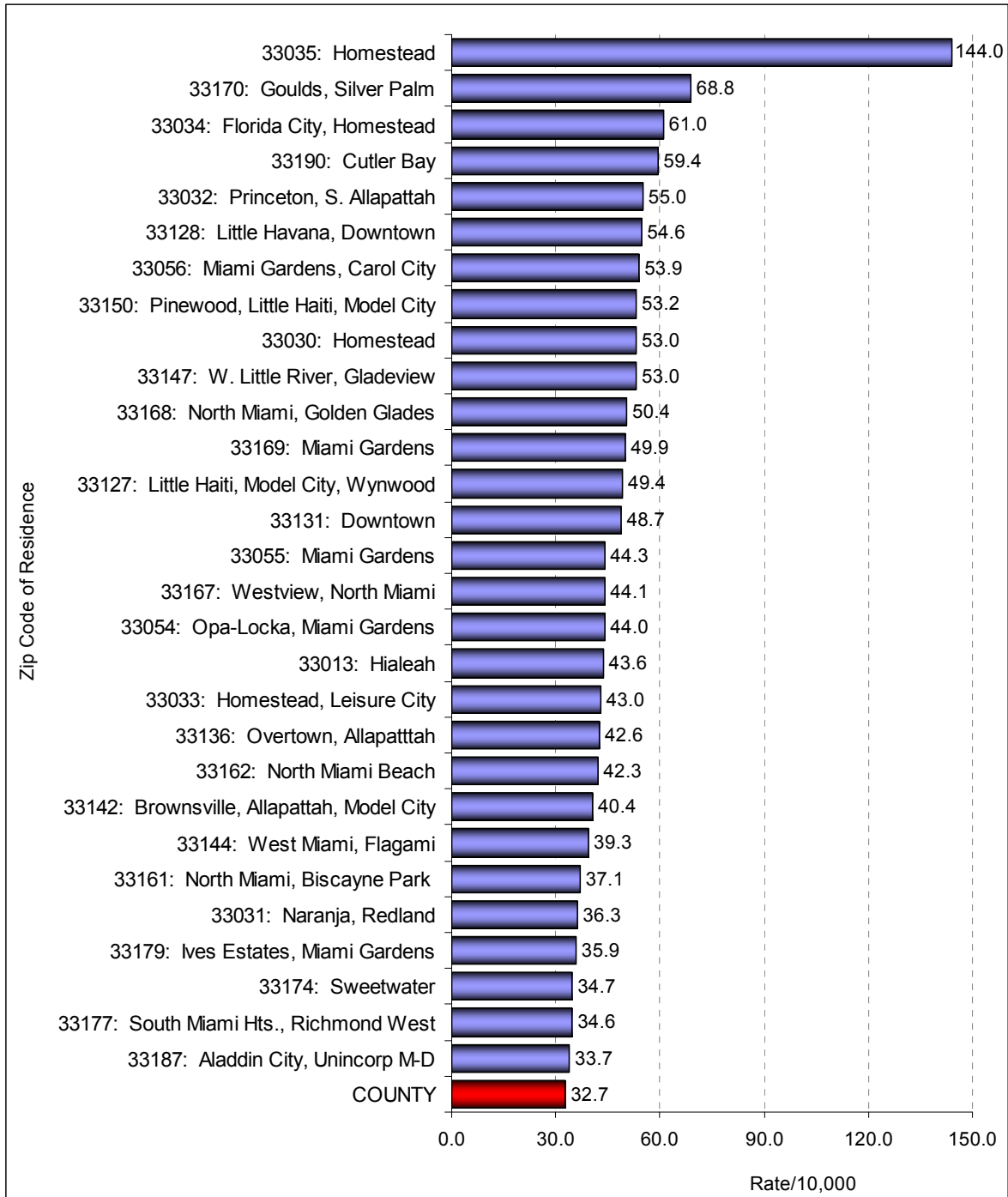
- Female children had slightly higher MVC injury rates than males.
- The MVC injury rate for white children was 72% lower than the MVC rate observed for black children.
- Hispanic children had an 89% lower MVC injury rate than non-Hispanic children.

## Motor Vehicle Occupant Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

The graph below shows those residential zip codes of the county that had higher motor vehicle occupant injury rates than the Miami-Dade County rate during the years 2007-2009.

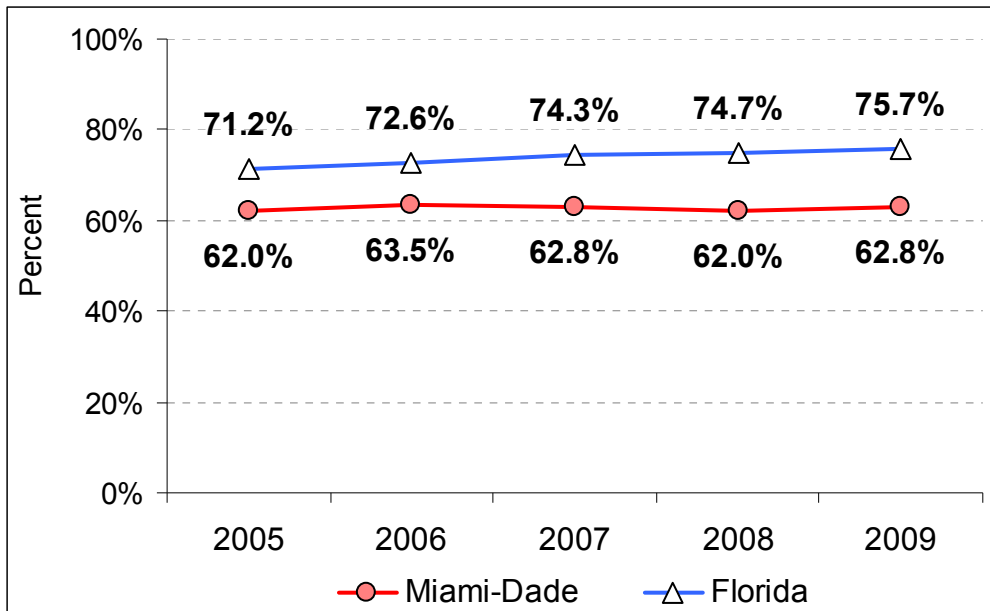
The areas of the county with the highest rates were:

1. The zip codes 33035 and 33034 in the Homestead/Florida City area.
2. The zip code 33170 (Goulds, Silver Palm) and 33032 (Princeton, S. Allapattah) in south Miami-Dade County.
3. The zip code 33190 in Cutler Bay.



## Child Passenger Safety, Children Aged 0-3 Years

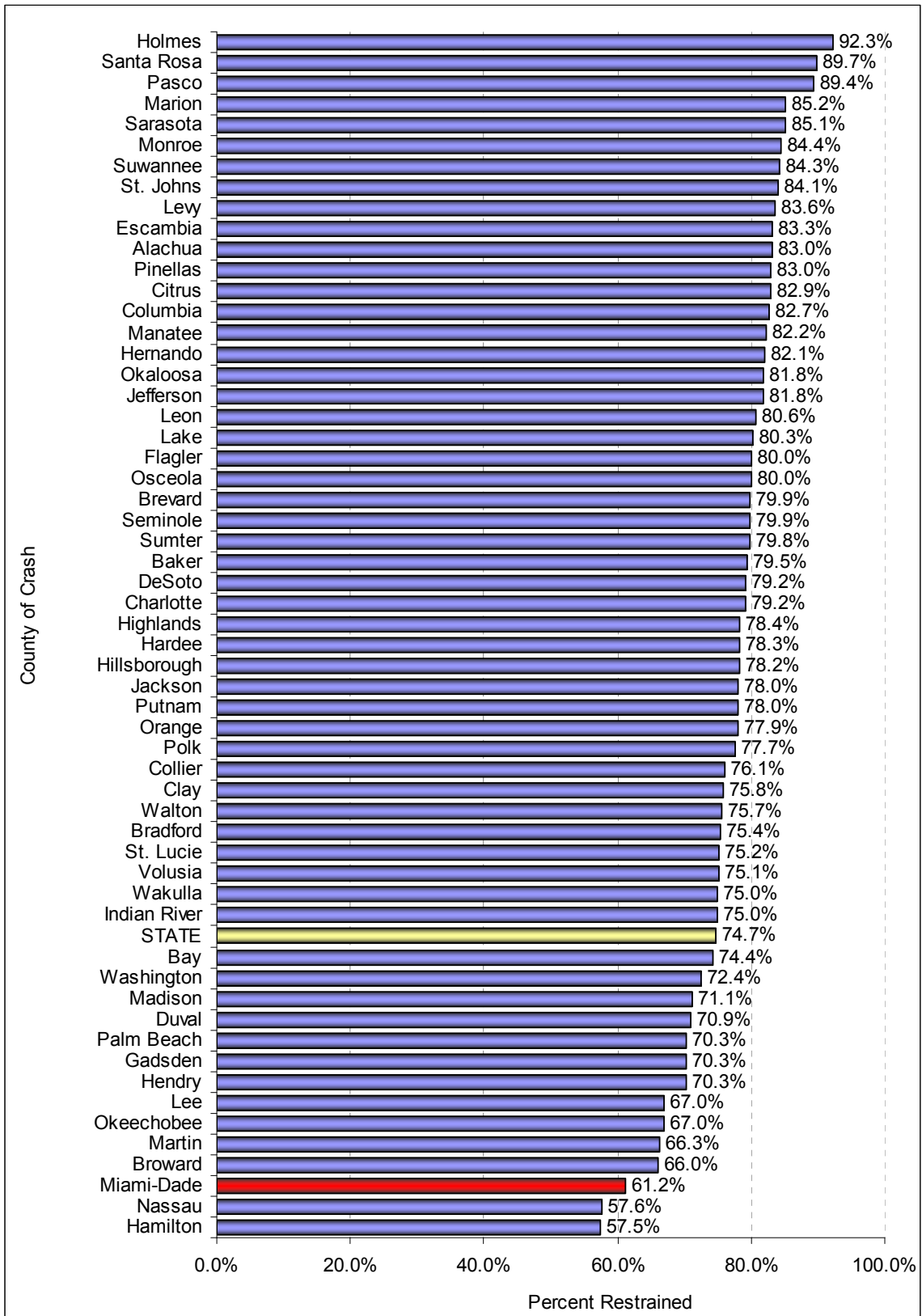
**Percent of Children Age 0-3 Restrained in Child Safety Seats  
Miami-Dade Co. Residents vs. Florida Residents, 2005-2009**



The percentage of county children aged 0-3 years involved in motor vehicle crashes that were properly restrained in child safety seat has remained between 62-63% during the period 2005-2009. Miami-Dade County's child restraint use rate has consistently been 9-13% lower than the child safety seat use rate for the entire state.

The graph on the following page shows the child safety seat use rates averaged for the years 2007-2009 for every county in the state. Because residency of the victim could not be verified for other counties, this graph displays restraint use by the county where the crash occurred, not the residency of the occupant. Miami-Dade County had the 3<sup>rd</sup> lowest child safety seat use rate of all 67 counties.

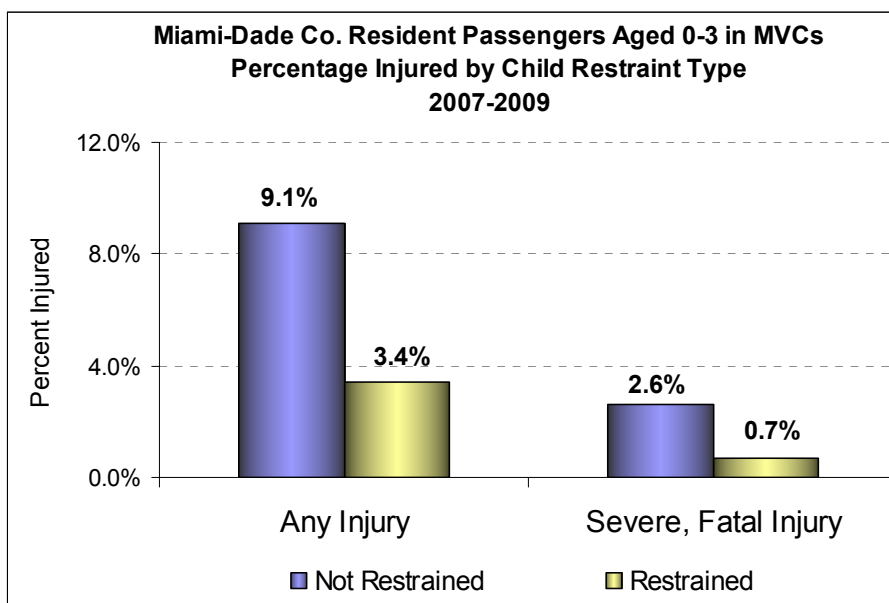
**Percent of Passengers Aged 0-3 Restrained in a Child Safety Seat  
By Florida County of Crash, 2007-2009  
(minimum 20 crashes during 3-year period)**



## Age 0-3 Motor Vehicle Occupant Injuries by Severity and Restraint Type, 2007-2009

Injury Severity	Restrained N	Not Restrained N
No or Possible Injury	3,772	210
Non-Incapacitating Injury	107	15
Incapacitating Injury	23	6
Fatalities	3	0
All MVC Crashes	3,905	231

Traffic crash reports represent another source of motor vehicle injury data and the only source that provides data on type of safety restraint used. It uses a subjective injury severity scale (see table above) assigned by the police that investigate each crash. These data permit a comparison of the injuries sustained for each passenger with the type of restraint used. There were 3 deaths, 29 incapacitating injuries and 122 non-incapacitating injuries to children aged 0-3 during 2007-2009.

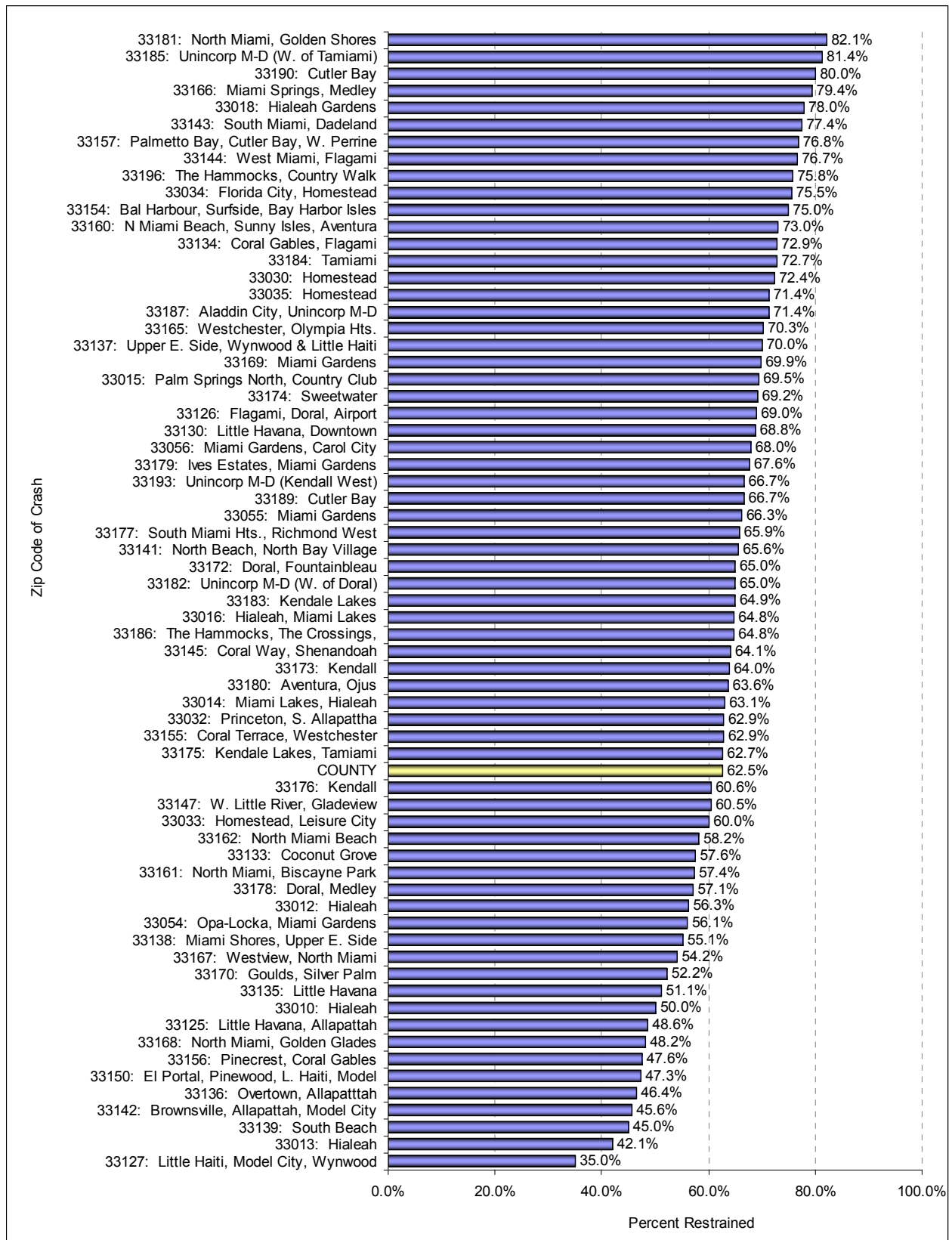


The graph above compares the risk for injury for children who were restrained in car seats or seat belts (Restrained) with children who were not restrained at all. The percentage of children that suffered any type of injury was nearly 3-times higher for the unrestrained children (9.1% vs. 3.4 %). Although there were few severe injuries (n=32), the risk for severe injury was nearly 4-times higher for the unrestrained children (2.6% vs. 0.7%).

The graph on the following page shows the child safety seat use rates for motor vehicle crash occupants aged 0-3 for every residential zip code in the county that experienced at least 20 crashes. The rates are averaged for the 3-year period 2007-2009. The highest child safety seat use rates were observed for:

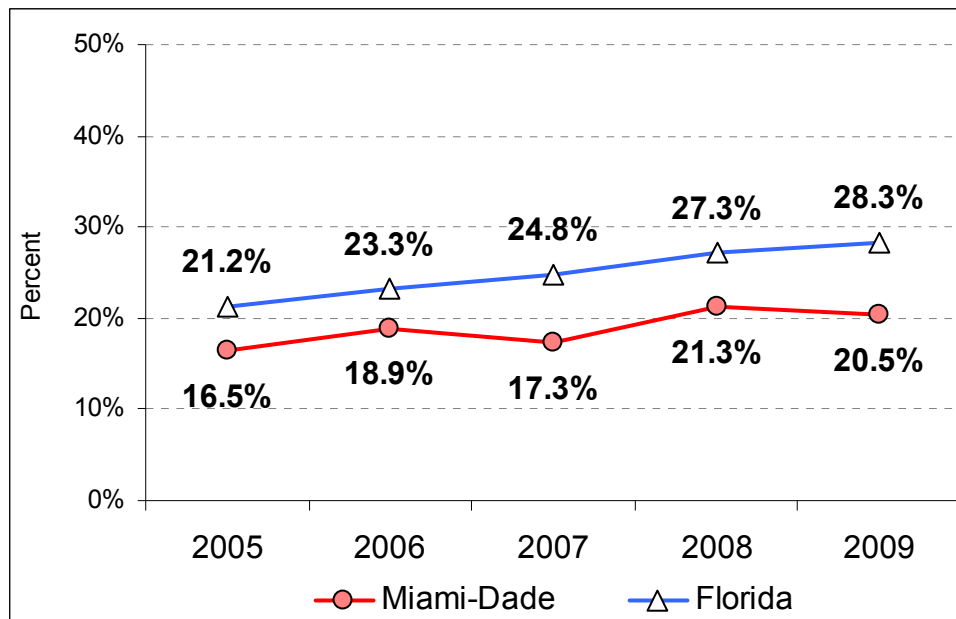
- 1) The zip code 33181 which is primarily North Miami Beach
- 2) The zip code 33185 which is an incorporated section of the county west of Tamiami
- 3) The zip code 33190 which represents Cutler Bay

**Percent of Passengers Aged 0-3 Restrained in a Child Safety Seat  
By Miami-Dade County Zip Code of Residence, 2007-2009  
(minimum 20 crashes during 3-year period)**



## Child Passenger Safety, Children Aged 4-7 Years

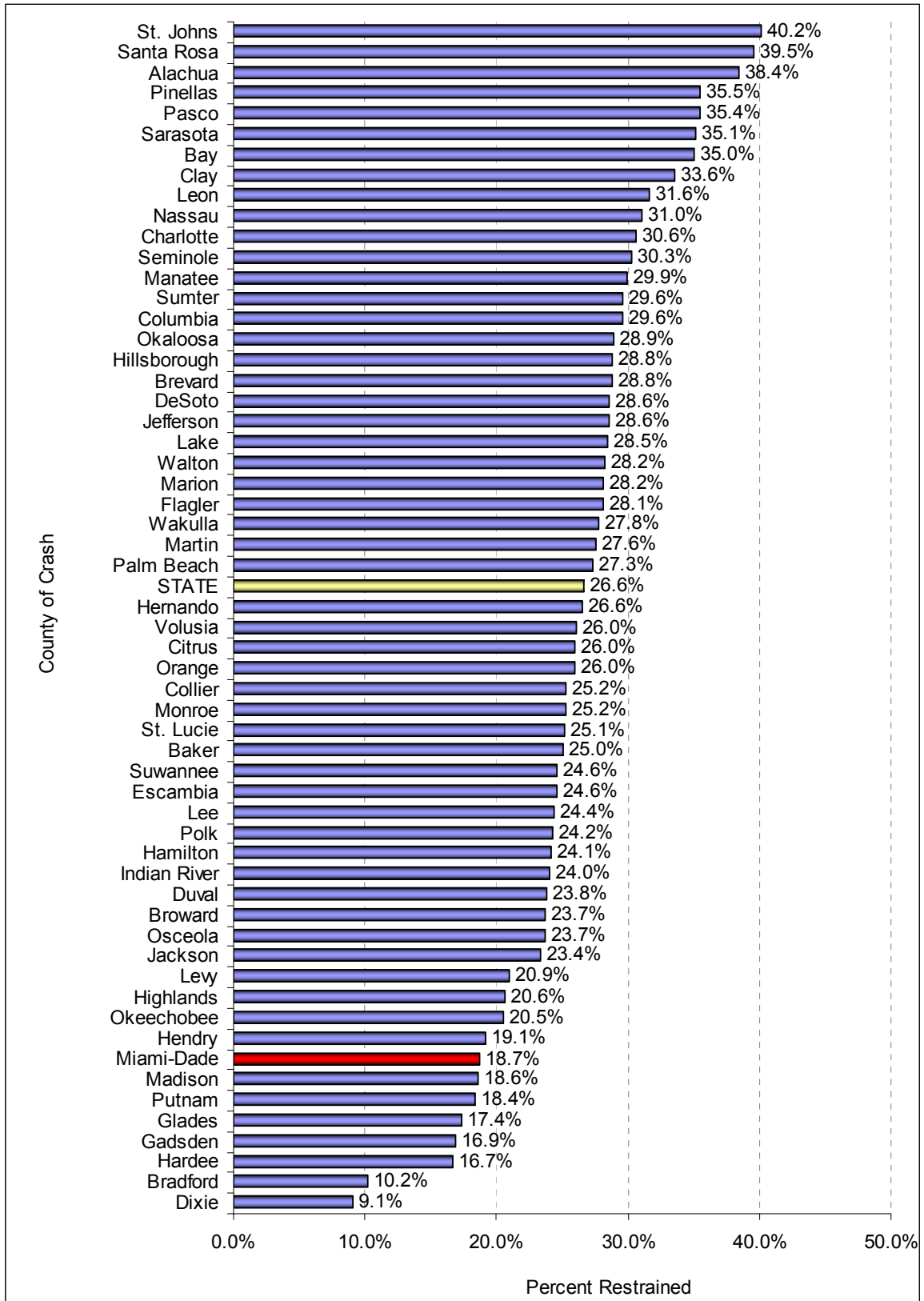
**Percent of Children Age 4-7 in Child Safety Seats  
Miami-Dade Co. Residents vs. Florida Residents, 2005-2009**



The percentage of county children aged 4-7 years involved in motor vehicle crashes that were properly restrained in child safety seat or booster seat has increased slightly from 16.5% to 20.5% during the period 2005-2009. Miami-Dade County's child restraint use rate for this age group has consistently been 5-8% lower than the child safety seat use rate for the entire state. The use of booster seats continues to be a difficult behavior for Florida citizens to adopt as the majority of children in this age group are restrained in adult seat belts.

The graph on the following page shows the child safety seat use rates for age 4-7 averaged for the years 2007-2009 for every county in the state. Because residency of the victim could not be verified for other counties, this graph displays restraint use by the county where the crash occurred, not the residency of the occupant. Miami-Dade County had the 8<sup>th</sup> lowest child safety seat use rate of all 67 counties.

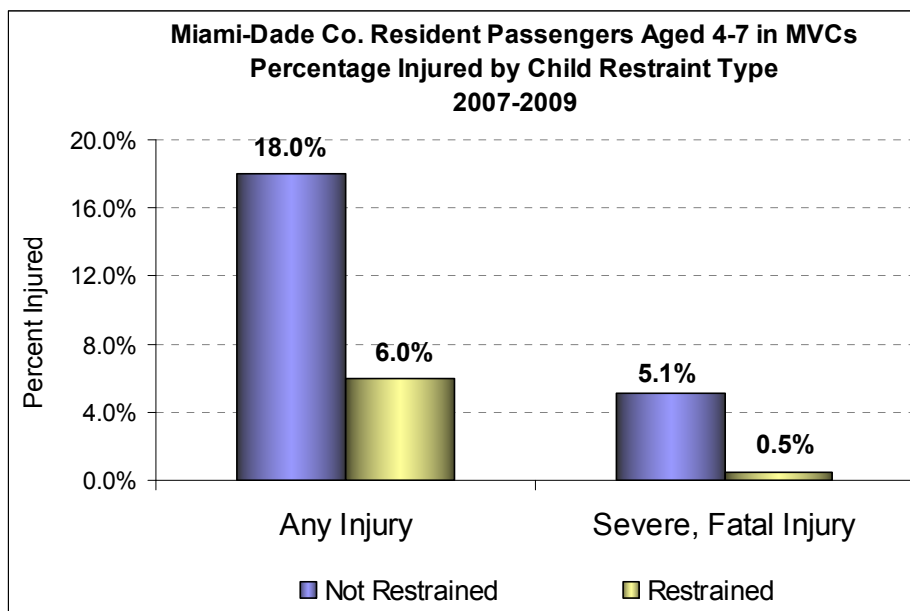
**Percent of Passengers Aged 4-7 Restrained in a Child Safety Seat  
By Florida County of Crash, 2007-2009  
(minimum 20 crashes during 3-year period)**



## Age 4-7 Motor Vehicle Occupant Injuries by Severity and Restraint Type, 2007-2009

Injury Severity	Restrained	Not Restrained
	N	N
No or Possible Injury	3,111	242
Non-Incapacitating Injury	182	38
Incapacitating Injury	16	13
Fatalities	1	2
All MVC Crashes	3,310	295

Traffic crash reports documented 3 deaths, 29 incapacitating injuries and 220 non-incapacitating injuries to child occupants aged 4-7 during 2007-2009.

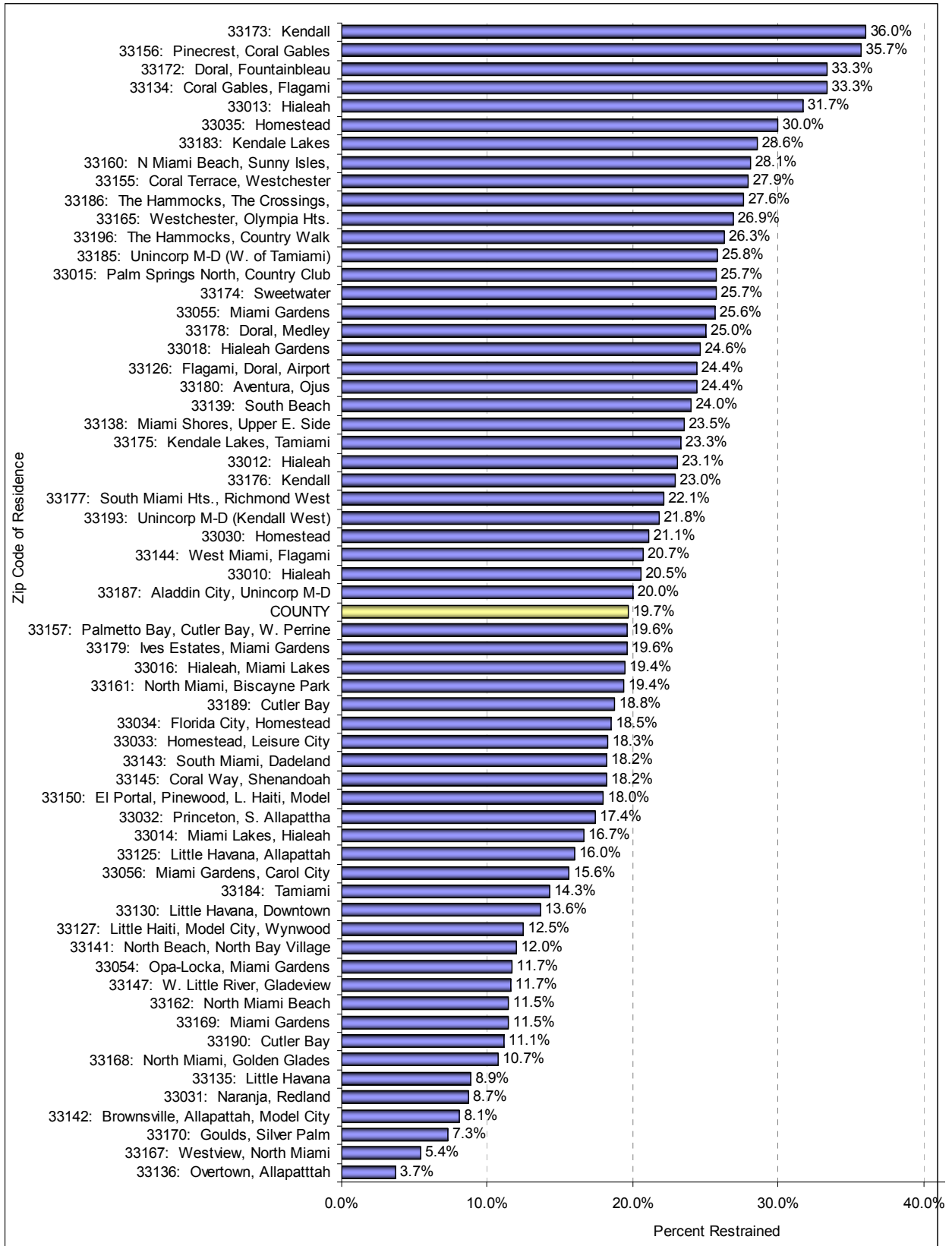


The graph above compares the risk for injury for children who were restrained in car seats or seat belts (Restrained) with children who were not restrained at all. The percentage of children that suffered any type of injury was 3-times higher for the unrestrained children (18.0% vs. 6.0%). Although there were few severe injuries (n=32), the risk for severe injury was nearly 10-times higher for the unrestrained children (5.1% vs. 0.5%).

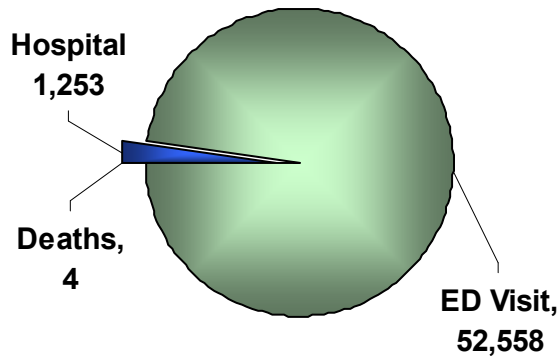
The graph on the following page shows the child safety seat use rates for motor vehicle crash occupants aged 4-7 for every residential zip code in the county that experienced at least 20 crashes. The rates are averaged for the 3-year period 2007-2009. The highest child safety seat use rates were observed for:

- 1) The zip code 33173 in Kendall
- 2) The zip code 33156 which encompasses Pinecrest and sections of Coral Gables
- 3) The zip code 33172 in Doral

**Percent of Passengers Aged 4-7 Restrained in a Child Safety Seat  
By Miami-Dade County Zip Code of Residence, 2007-2009  
(minimum 20 crashes during 3-year period)**



# Unintentional Fall Injuries, 2007-2009

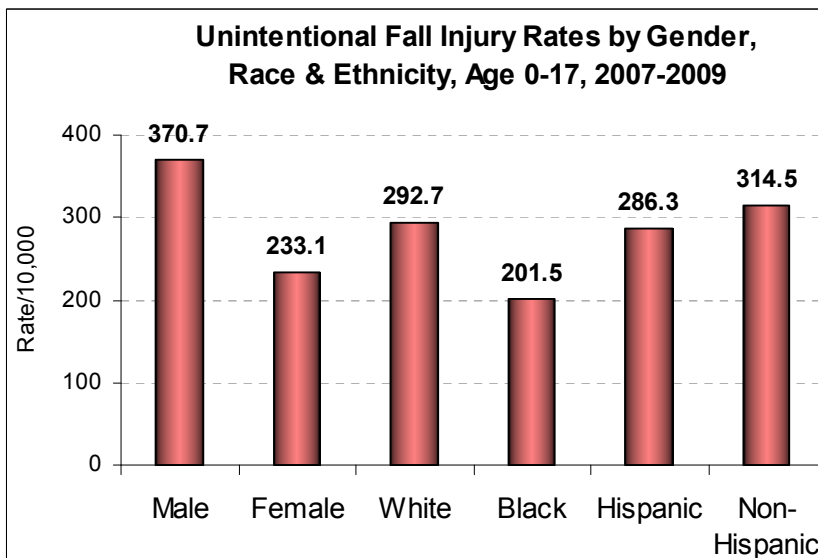


- Between the years 2007-2009, 53,815 children aged 0-17 were injured due to unintentional falls. There were 4 deaths (<1%), 1,253 hospitalizations (2%) and 52,558 ED visits (98%).

## Leading Principal Injury Diagnoses for Unintentional Fall Injuries

Severity	Diagnosis & Body Region (%)
<b>Deaths</b>	Presence of TBI (50%)
<b>Hospitalizations</b>	Upper Extremity Fractures (40%)
	Skull Fractures (16%)
	Lower Extremity Fractures (14%)
	Internal Head Injuries (12%)
	Contusions: Head & Neck (4%)
<b>ED Visits</b>	Open Wounds: Head & Neck (22%)
	Upper Extremity Fractures (21%)
	Superficial/Contusion: Head & Neck (11%)
	Lower Extremity Sprains/Strains (5%)
	Superficial/Contusion: Upper Extremity (4%)

- TBI was present in 2 of the 4 fatal falls and 28% of the hospitalizations (16% skull fracture, 12% internal head injury). One-third of the ED visits for falls involved either a superficial or open wound of the head.
- More than one-half of the falls hospitalizations were for extremity fractures (upper extremity 40%; lower extremity 14%). One in five ED visits for falls was also for an upper extremity fracture.



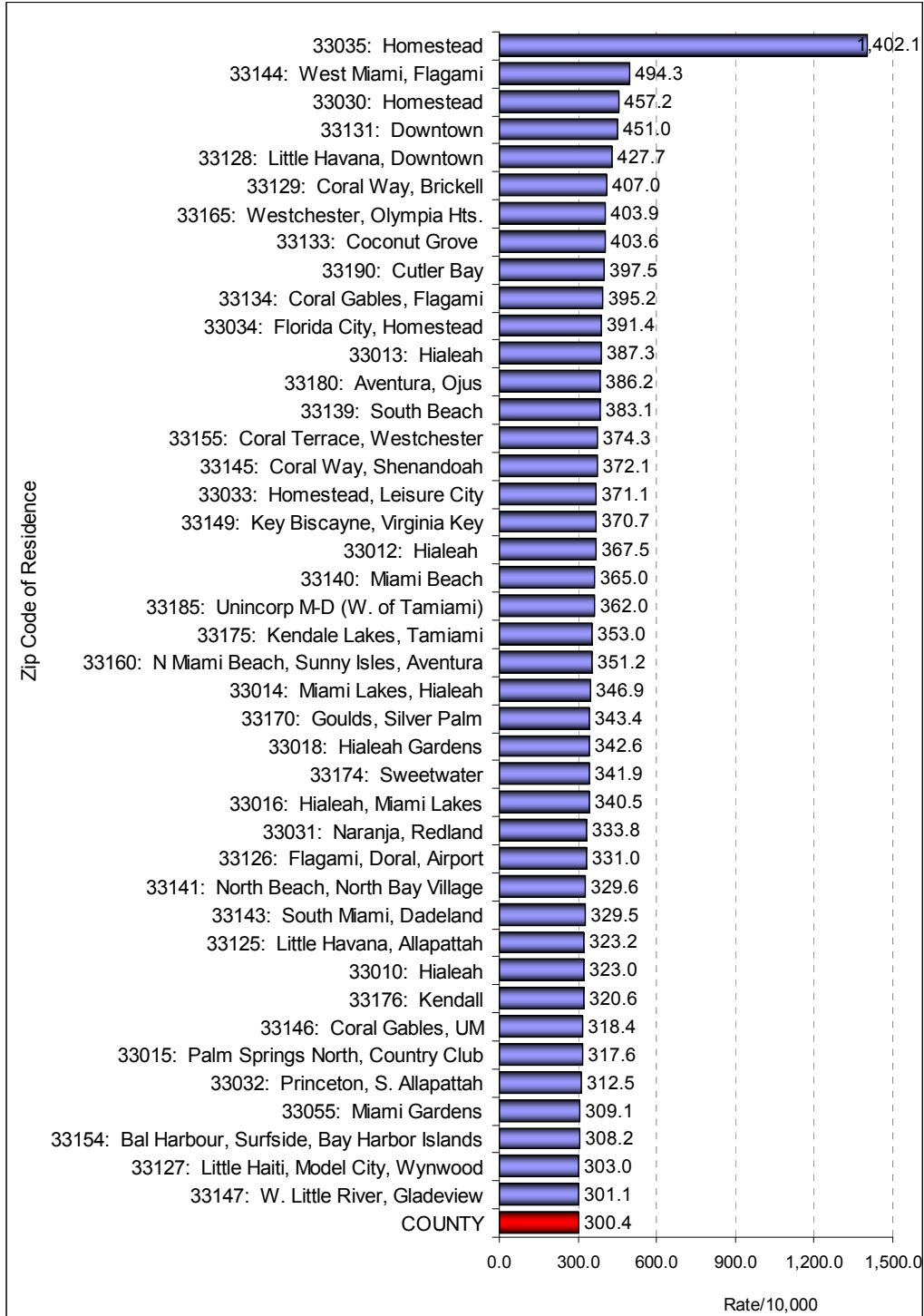
- Male children had 37% higher fall injury rate than females.
- The fall injury rate for white children was 31% higher than the rate observed for black children.
- Hispanic children had an 11% lower fall injury rate than non-Hispanic children.

## Unintentional Fall Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

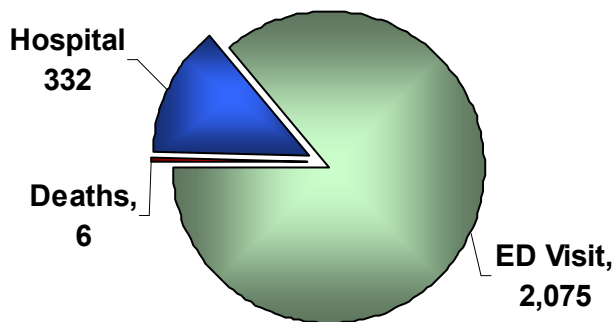
The graph below shows those residential zip codes of the county that had higher child unintentional fall injury rates than the Miami-Dade County rate during the years 2007-2009.

The areas of the county with the highest rates were:

1. The zip codes 33035 and 33030 in the Homestead area.
2. The zip code 33144 representing West Miami and the Flagami section of the City of Miami.
3. The zip code 33128 and 33131 representing sections of Little Havana and Downtown Miami.



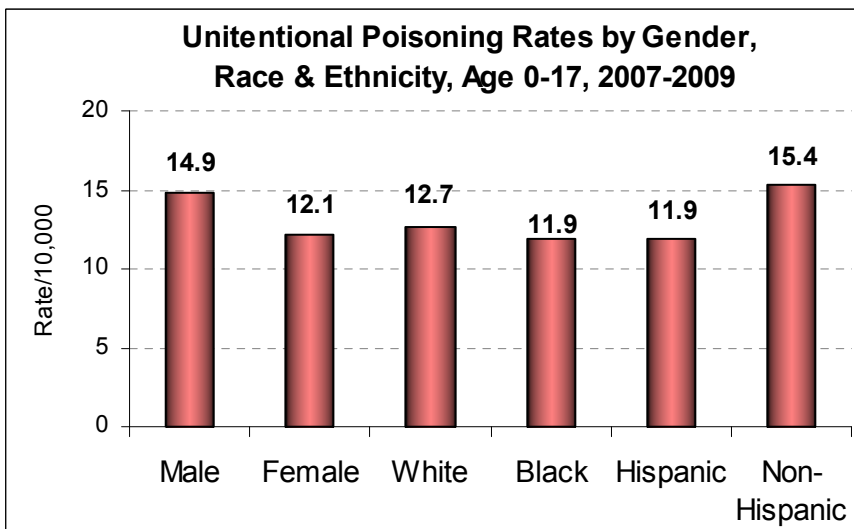
# Unintentional Poisonings, 2007-2009



- Between the years 2007-2009, 2,413 children age 0-17 were injured due to unintentional poisoning. There were 6 deaths (<1%), 332 hospitalizations (14%) and 2,075 ED visits (86%).

Poisoning Agent	N	%
Analgesics, Antipyretics, and Antirheumatics	345	14%
Sedatives, Hypnotics, Barbiturates	26	1%
Tranquilizers	220	9%
Other Psychotropic Agents	90	4%
Central and Autonomic Nervous System Drugs	97	4%
All Other Drugs	950	39%
Alcohol	31	1%
Cleansing Agents, Disinfectants, Paints, Varnishes	95	4%
Petroleum Products or Other Solvents	48	2%
Poisonous Foodstuffs and Poisonous Plants	62	3%
Gases and Vapors	66	3%
Other and Unspecified Solid and Liquid Substances	377	16%

- 71% of unintentional poisonings were caused by drugs or medicinals with the other 29% caused by other solid, liquid or gaseous substances.
- The most common type of drug identified was analgesics and antipyretics which consist of many other-the-counter pain remedies.
- There were 336 incidents that involved child access to sedatives, tranquilizers and psychotropic agents.
- Cleaning agents were reported for 95 of the poisoning incidents.



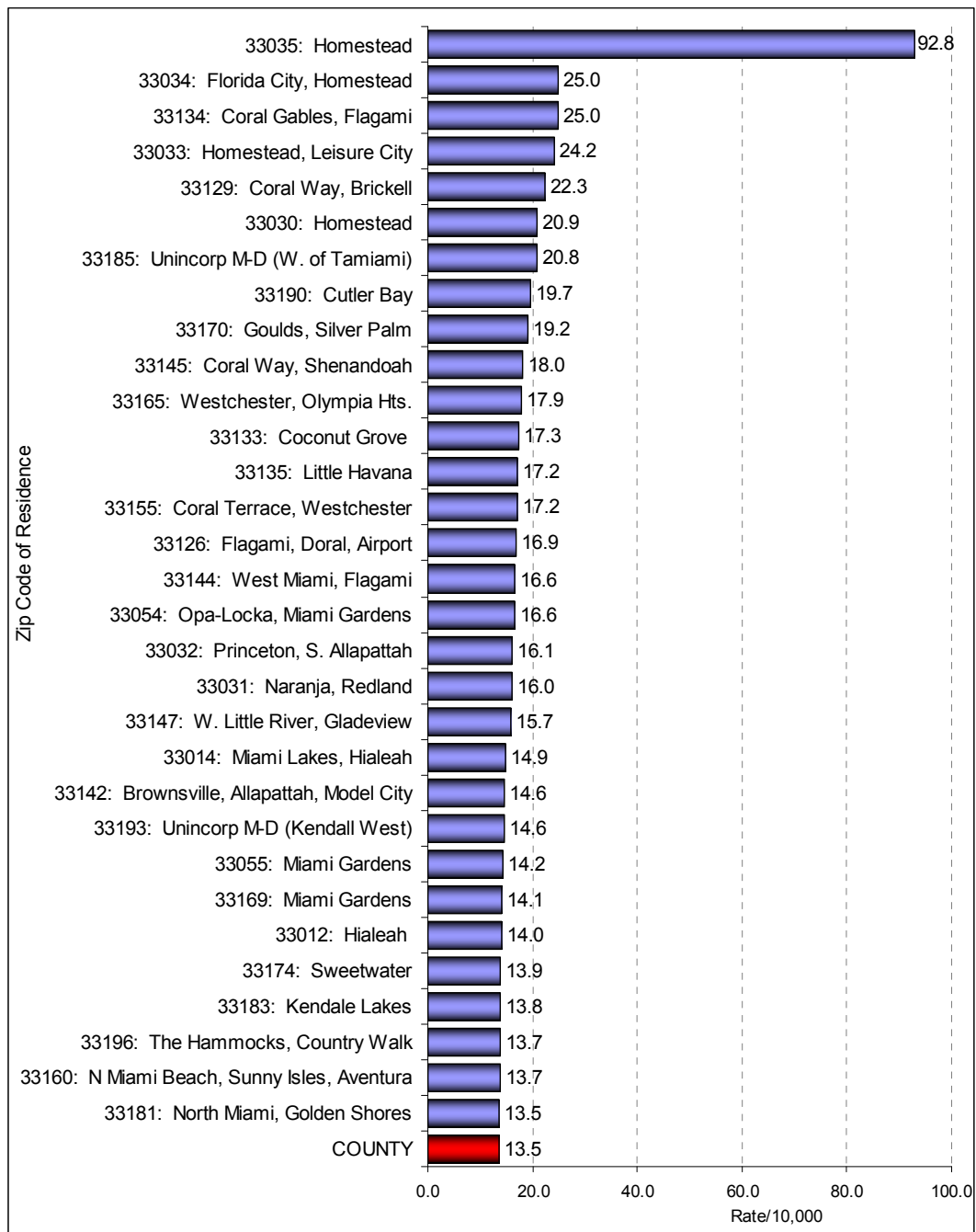
- Male children had an 18% higher unintentional poisoning rate than females.
- The unintentional poisoning rate for white children was 6% higher than the rate observed for black children.
- Hispanic children had a 29% lower unintentional poisoning rate than non-Hispanic children.

## Unintentional Poisoning Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

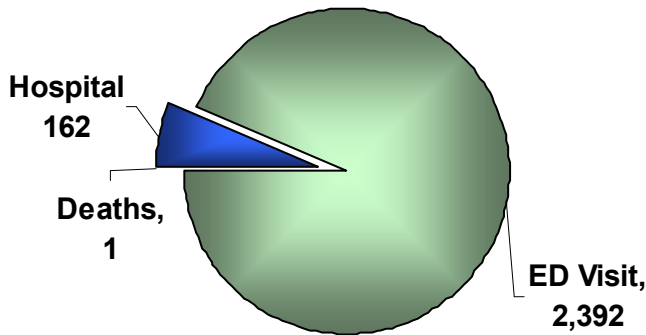
The graph below shows those residential zip codes of the county that had higher child unintentional poisoning rates than the Miami-Dade County rate during the years 2007-2009. Zip codes must have experienced at least 5 unintentional poisoning incidents during this 3-year period.

The areas of the county with the highest rates were:

1. The 4 zip codes in the Homestead/Florida City area of the county (33035, 33030, 33034, 33033) had the 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> highest unintentional poisoning rates.
2. The zip code 33134 representing Coral Gables and the Flagami section of the City of Miami.
3. The zip code 33129 representing the Coral Way and Brickell sections of the City of Miami.



# Pedal Cycle Injuries, 2007-2009



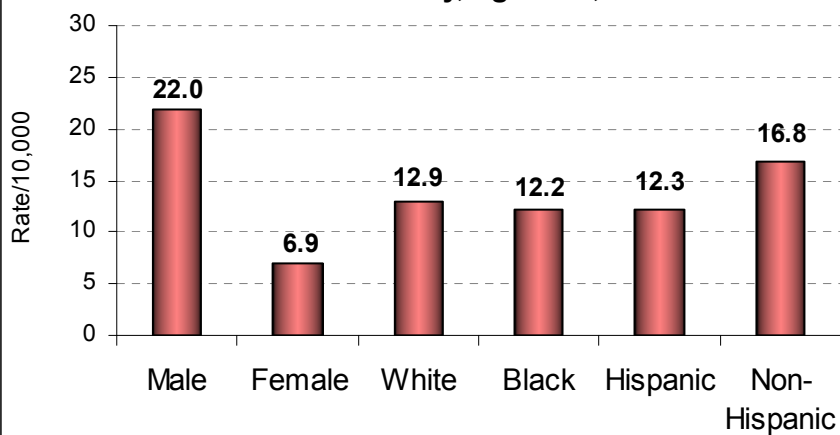
- Between the years 2007-2009, 2,555 children age 0-17 were injured due to pedal cycle injuries. There was 1 death (<1%), 162 hospitalizations (6%) and 2,392 ED visits (94%).

## Leading Principal Injury Diagnoses for Pedal Cycle Injuries

Severity	Diagnosis & Body Region (%)
Deaths	Presence of TBI (100%)
Hospitalizations	Upper Extremity Fractures (22%)
	Lower Extremity Fractures (20%)
	Internal Head Injuries (16%)
	Skull Fractures (14%)
	Internal Injuries: Torso (5%)
ED Visits	Upper Extremity Fractures (25%)
	Open Wounds: Head & Neck (15%)
	Superficial/Contusion: Head & Neck (8%)
	Superficial/Contusion: Upper Extremity (7%)
	Superficial/Contusion: Lower Extremity (6%)

- TBI was present in the only pedal cycle fatality and in 30% of the hospitalizations (16% internal head injury, 14% skull fracture). Nearly 1/4 of the ED visits sustained either a superficial or open wound of the head.
- 42% of pedal cycle injury hospitalizations were for extremity fractures (upper extremity 22%; lower extremity 20%). One in four ED visits was also for an upper extremity fracture.

**Pedal Cycle Injury Rates by Gender, Race & Ethnicity, Age 0-17, 2007-2009**



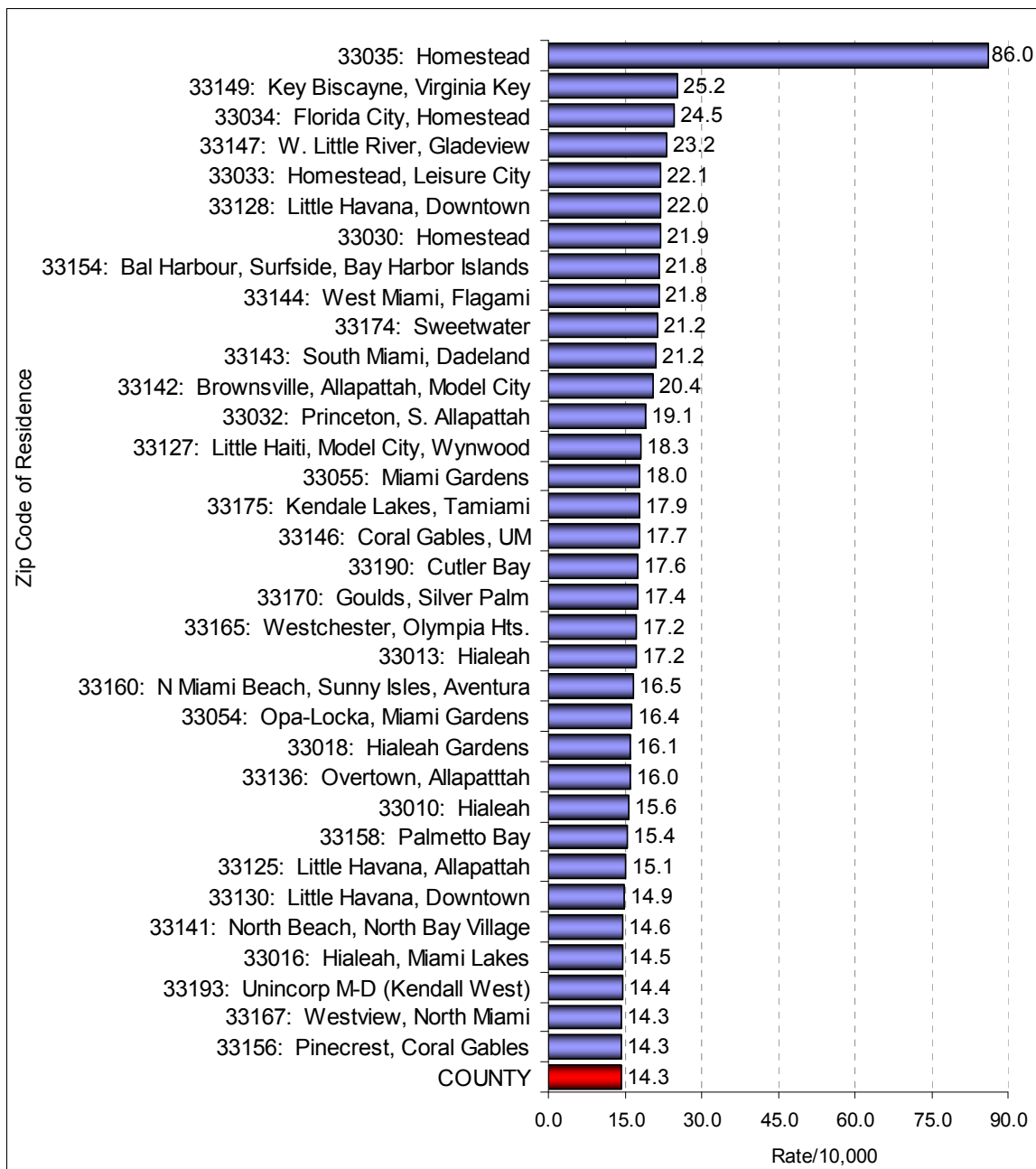
- The pedal cycle injury rate was more than 3-times higher for male children than females.
- There was little difference in the pedal cycle injury rates between white and black children.
- Hispanic children had a 36% lower pedal cycle injury rate than non-Hispanic children.

## Pedal Cycle Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

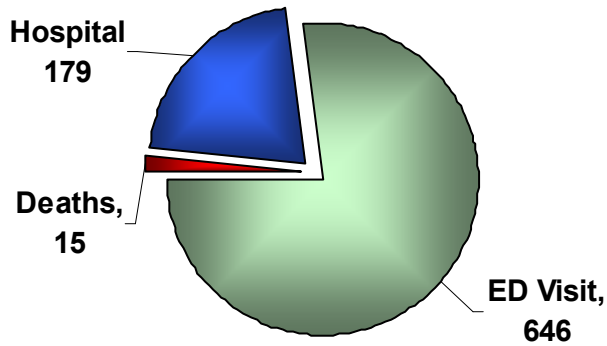
The graph below shows those residential zip codes of the county that had higher child pedal cycle injury rates than the Miami-Dade County rate during the years 2007-2009. Zip codes must have experienced at least 5 pedal cycle injuries during this 3-year period.

The areas of the county with the highest rates were:

1. The 4 zip codes in the Homestead/Florida City area of the county (33035, 33030, 33034, 33033) had the 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> highest pedal cycle injury rates.
2. The zip code 33149 representing Key Biscayne area.
3. The zip code 33147 representing West Little River and Gladeview.
4. The zip code 33128 representing sections of Little Havana and Downtown Miami.



# Pedestrian Injuries, 2007-2009

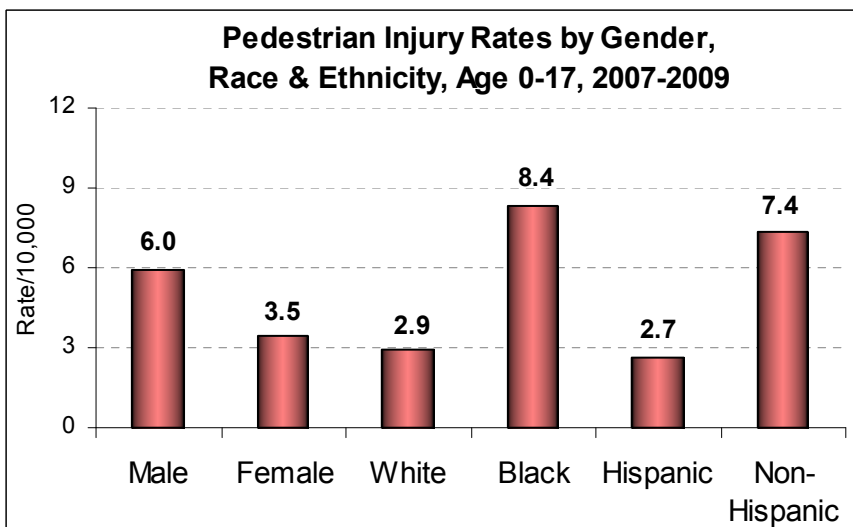


- Between the years 2007-2009, 840 children age 0-17 were injured due to pedestrian injuries. There were 15 deaths (2%), 179 hospitalizations (21%) and 646 ED visits (77%).

## Leading Principal Injury Diagnoses for Pedestrian Injuries

Severity	Diagnosis & Body Region (%)
<b>Deaths</b>	Presence of TBI (100%)
<b>Hospitalizations</b>	Lower Extremity Fractures (34%) Skull Fractures (13%) Internal Head Injuries (12%) Internal Injuries: Torso (10%) Upper Extremity Fractures (5%)
<b>ED Visits</b>	Superficial/Contusion: Lower Extremity (24%) Superficial/Contusion: Upper Extremity (9%) Superficial/Contusion: Head & Neck (8%) Lower Extremity Fractures (8%) Lower Extremity Sprains/Strains (6%)

- TBI was present all 15 of the fatal falls and 25% of the hospitalizations (13% skull fracture, 12% internal head injury). 8% of the ED visits sustained either a superficial wound of the head.
- More than 1/3 of the pedestrian injury hospitalizations were for lower extremity fractures. One-third of ED visits were for upper or lower extremity superficial injuries.



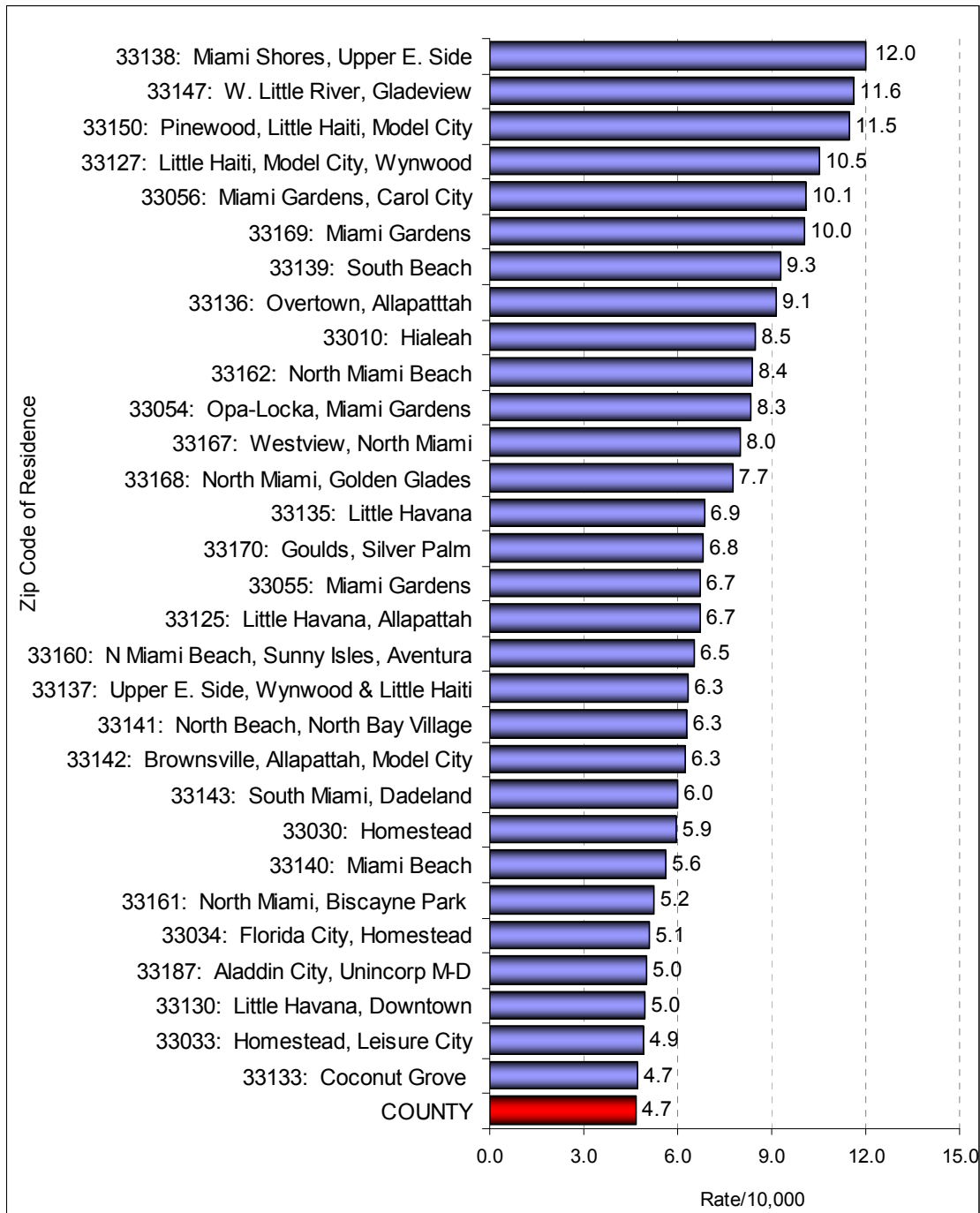
- The pedestrian injury rate was almost 2-times higher for male children than females.
- Black children had a pedestrian injury rate almost 3-times higher than white children.
- Hispanic children had a pedestrian injury rate nearly 3-times lower than non-Hispanic children.

## Pedestrian Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

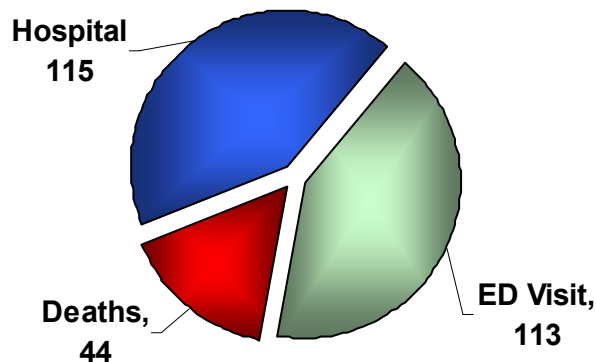
The graph below shows those residential zip codes of the county that had higher child pedestrian injury rates than the Miami-Dade County rate during the years 2007-2009. Zip codes must have experienced at least 5 pedestrian injuries during this 3-year period.

The areas of the county with the highest rates were:

1. The zip code 33138 representing Miami Shores and the Upper East Side section of the City of Miami.
2. The adjacent zip codes of 33147 (West Little River, Gladeview), 33150 and 33127 which encompass sections of Little Haiti, Model City and Wynwood in the City of Miami and the community of Pinewood.
3. The zip code 33056 and 33169 which represent sections of Miami Gardens and Carol City.



# Drowning & Near-Drowning, 2007-2009



- Between the years 2007-2009, 272 children age 0-17 were injured due to drowning or near-drowning. There were 44 deaths (16%), 115 hospitalizations (42%) and 113 ED visits (42%).

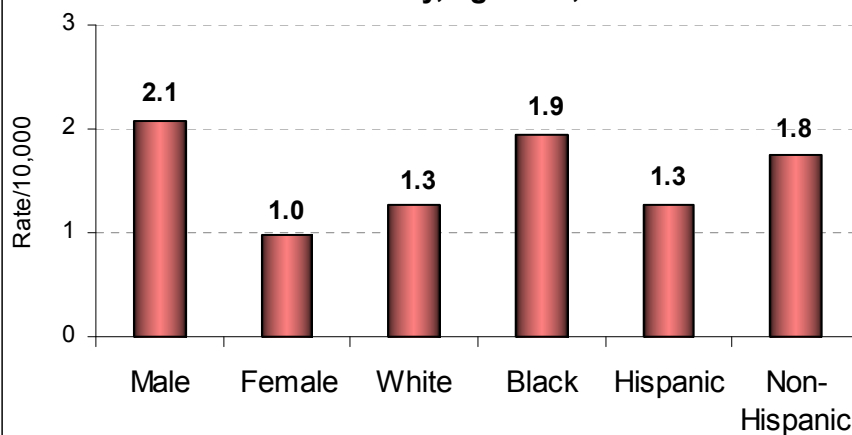
## Location of Drowning and Near-Drowning Incidents

Age Group		Drown		Near-Drown	
		N	N	N	N
Age 0-4	Swimming Pool	17		103	
	Natural Water	2		#	
	Other	4		33	
Age 5-14	Swimming Pool	2		24	
	Natural Water	2		#	
	Other	2		26	
Age 15-17	Swimming Pool	2		9	
	Natural Water	9		#	
	Other	4		12	

# Cannot be identified in nonfatal data

- Age 0-4: 17 of the 23 (74%) drowning incidents and 103 of 136 (76%) near-drowning injuries occurred in swimming pools.
- Age 5-14: 2 of the 6 (33%) drowning incidents and 24 of 50 (48%) near-drowning injuries occurred in swimming pools.
- Age 15-17: 9 of the 15 (60%) drowning incidents occurred in natural water (beach, lake, etc.).

## Drowning/Near-Drowning Rates by Gender, Race & Ethnicity, Age 0-17, 2007-2009



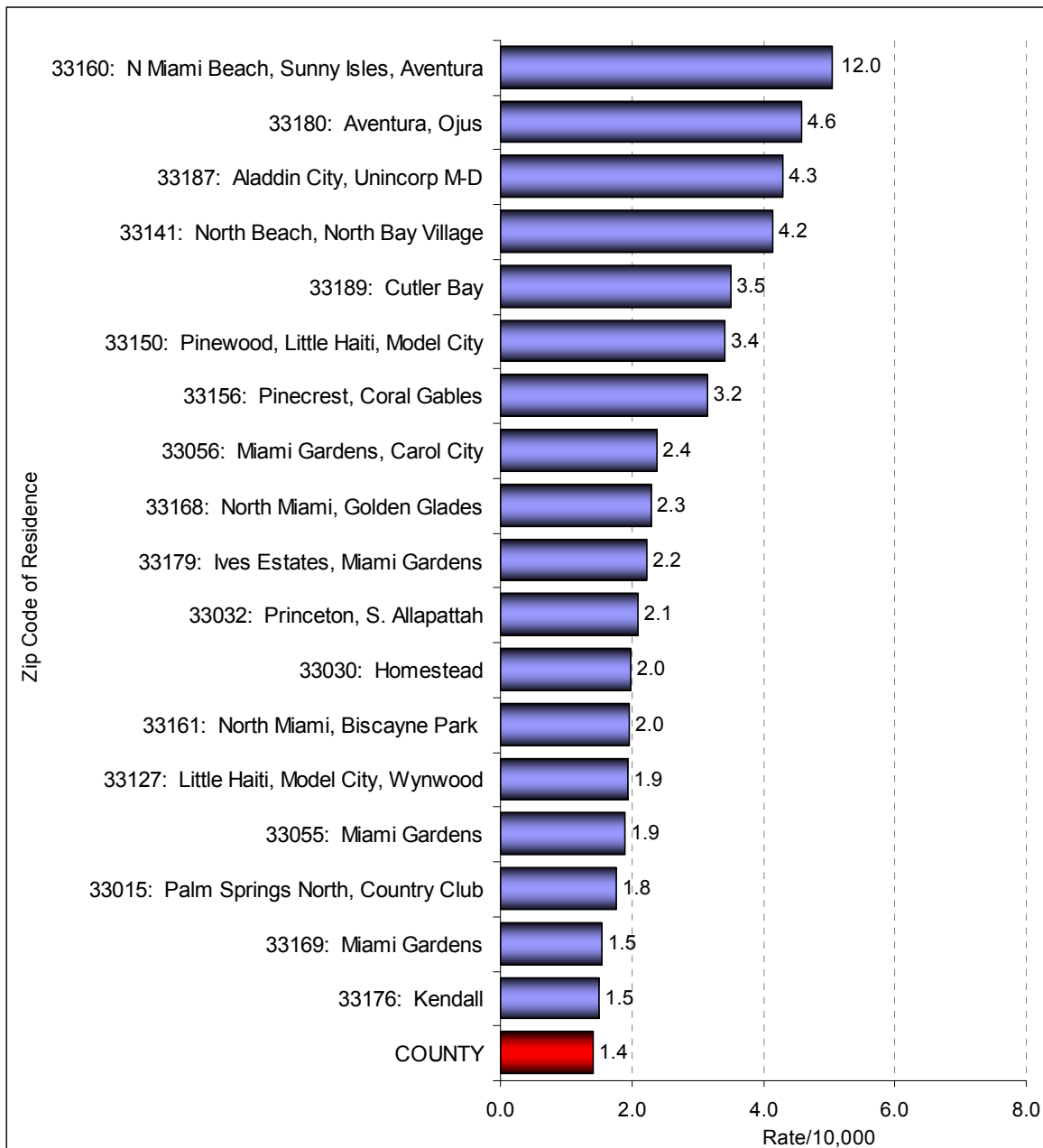
- The drowning/near-drowning rate was more than 2-times higher for male children than females.
- Black children had a drowning/near-drowning rate 52% higher than white children.
- The drowning/near-drowning rate for Hispanic children was 39% lower than non-Hispanic children

## Drowning 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

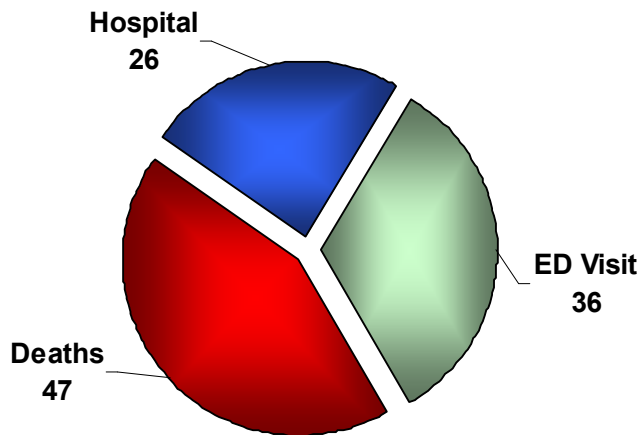
The graph below shows those residential zip codes of the county that had higher child drowning and near-drowning rates than the Miami-Dade County rate during the years 2007-2009. Zip codes must have experienced at least 5 drowning incidents during this 3-year period.

The areas of the county with the highest rates were:

1. The zip codes 33160 and 33180 representing Aventura, Sunny Isles and part of N. Miami Beach.
2. The zip code 33187 which represents Aladdin City and an unincorporated area of the county north of Homestead.
3. The zip code 33141 in North Beach and North Bay Village.
4. The zip codes 33189 in Cutler Bay.



# Unintentional Suffocation, 2007-2009



- Between the years 2007-2009, 109 children age 0-17 were injured due to unintentional suffocation. There were 47 deaths (43%), 26 hospitalizations (24%) and 36 ED visits (33%).
- This was the only child injury mechanism where fatalities were greater than hospitalizations or ED visits.

## Cause of Suffocation Incidents by Age Group

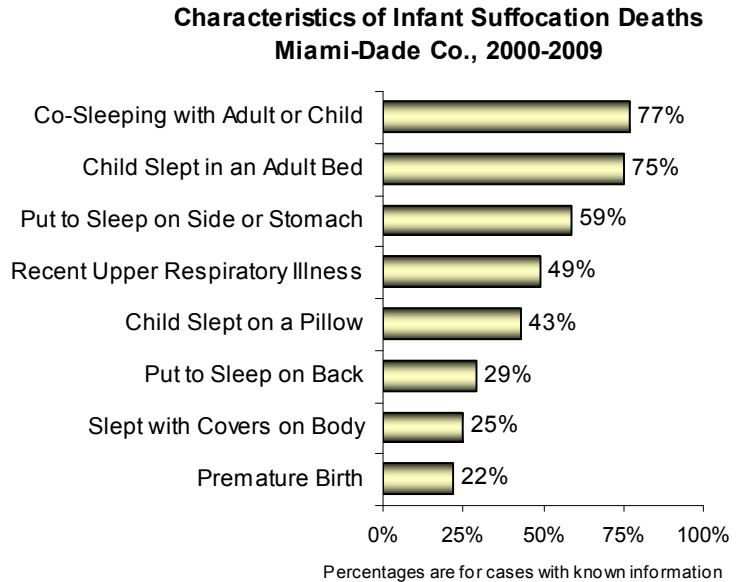
Age Group	Fatal N	Nonfatal N
<b>Age &lt; 1</b>		
Positional Suffocation: Crib, Bed, Sofa	43	
Obstructed Airway: Object		9
Obstructed Airway: Vomit	1	8
<b>Total</b>	<b>44</b>	<b>17</b>
<b>Age 1-4</b>		
Positional Suffocation: Bed	1	
Obstructed Airway: Object		22
Obstructed Airway: Food	1	12
Unspecified Suffocation		1
<b>Total</b>	<b>2</b>	<b>35</b>
<b>Age 5-14</b>		
Obstructed Airway: Object		3
Obstructed Airway: Food		4
Unspecified Suffocation		2
<b>Total</b>	<b>0</b>	<b>9</b>
<b>Age 15-17</b>		
Obstructed Airway: Object	1	1
<b>Total</b>	<b>1</b>	<b>1</b>

- More than one-half of all the suffocation injuries occurred to infants (61/109, 56%).
- Fatal suffocation incidents occurred almost exclusively to infants (44/47 deaths) and all 44 fatal incidents involved how the infant was put to sleep. The annual incidence of infant suffocations deaths during the years 2007-2009 was 15, 17 and 12 deaths respectively.
- Children aged 1-4 most at-risk for nonfatal choking incidents (34/37 injuries): 65% were caused by choking on objects and 35% were due to choking on food.

## Risk Factors for Infant Suffocation Deaths

The injury surveillance system maintains a database on the circumstances surrounding all 126 infant suffocation deaths that have occurred since 2000.

- Three out of four deaths involved infants sleeping with others (parents, siblings or both) and sleeping in adult beds as opposed to cribs.
- A significant risk factor for infant suffocation deaths was the infant's sleep position. Babies were put to sleep on their side or stomach for 59% of deaths. Only 29% were put to sleep in the recommended position of on their back.
- Upper respiratory illnesses were present in the days preceding the death for 49% of deaths.
- 43% of suffocation deaths involved the infant being put to sleep on a pillow.
- 25% of infants were put to sleep with covers on their body.
- 22% of infants were premature births.

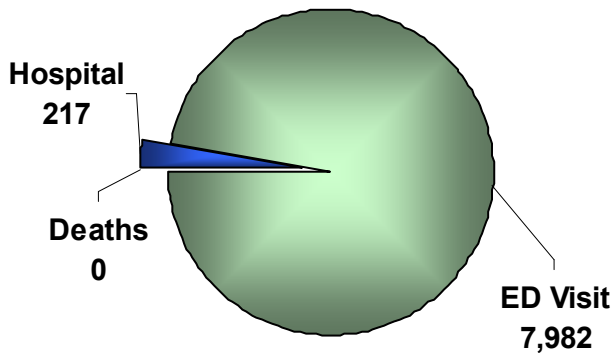


## Location of Suffocation Injuries 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

Because there were only 109 suffocation injuries, it was not possible to calculate stable injury rates for the residential zip codes of the county. Nine zip codes of the county experienced four or more suffocation incidents between 2007-2009:

1. 33142 (4 deaths, 4 hospitalizations, 1 ED visit) which represents Brownsville and sections of Allapattah and Model City in the City of Miami.
2. 33033 (2 hospitalizations, 3 ED visits) which represents sections of Homestead.
3. 33030 (4 deaths) which represents sections of Homestead.
4. 33167 (4 deaths) which represents Westview and sections of North Miami.
5. 33157 (3 deaths, 1 hospitalization) which represents Palmetto Bay, Cutler Bay and W. Perrine.
6. 33054 (3 deaths, 1 ED visit) which represents Opa-Locka.
7. 33161 (3 deaths, 1 ED visit) which represents sections of North Miami.
8. 33150 (2 deaths, 2 ED visits) which represents the community of Pinewood and sections of Little Haiti and Model City in the City of Miami.
9. 33136 (2 deaths, 1 hospitalization, 1 ED visit) which represents Overtown and sections of Allapattah in the City of Miami.

# Sports Injuries, 2007-2009

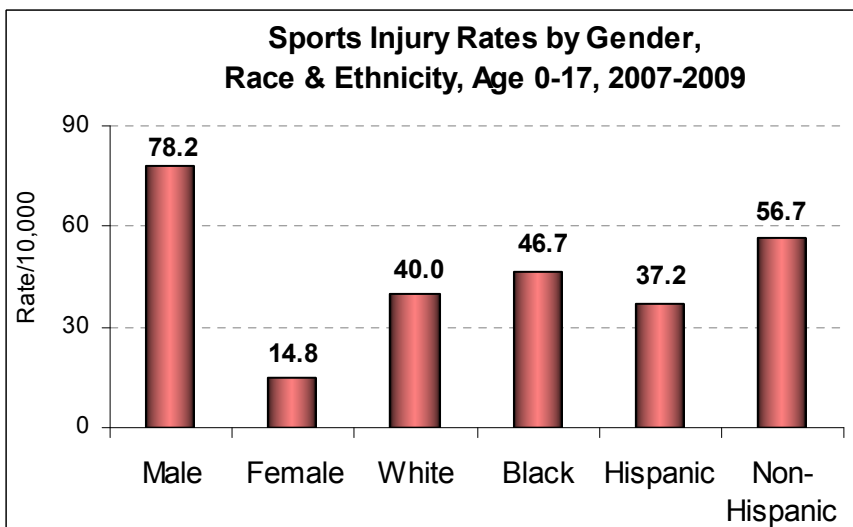


- Some sports-related injuries can be identified from the coding of hospital records. The codes can identify sports-related injuries that involved a fall during sports/recreation or being struck during sports/recreation by an object or person. It cannot be determined whether these injuries occurred in organized team sports or leisure activity.
- Between the years 2007-2009, 8,199 children age 0-17 were injured during sports or recreation activities. There were no deaths, 217 hospitalizations (3%) and 7,982 ED visits (97%).

## Leading Principal Injury Diagnoses for Sports Injuries

Severity	Diagnosis & Body Region (%)
<b>Hospitalizations</b>	Lower Extremity Fractures (27%)
	Internal Head Injuries (16%)
	Upper Extremity Fractures (15%)
	Internal Injuries: Torso (11%)
	Lower Extremity Sprains/Strains (8%)
<b>ED Visits</b>	Upper Extremity Fractures (26%)
	Upper Extremity Sprains/Strains (10%)
	Open Wound: Head & Neck (8%)
	Lower Extremity Sprains/Strains (8%)
	Superficial/Contusions: Upper Extremity (8%)

- 16% of the hospitalizations for sports injuries were for internal head injury. Only 8% of the sports-related ED visits were for open wounds of the head.
- 42% of the hospitalizations for sports injuries were for extremity fractures (lower extremity 27%, upper extremity 15%). One in four ED visits was for an upper extremity fracture.



- The sports injury rate was more than 5-times higher for male children than females.
- Black children had a sports injury rate 17% higher than white children.
- The sports injury rate for Hispanic children was 52% lower than non-Hispanic children.

## Sports Injury 3-Year Avg. Rate, Children Aged 0-17 Years 2007-2009 Deaths, Hospitalizations & Emergency Dept. Visits

The graph below shows those residential zip codes of the county that had higher child sports injury rates than the Miami-Dade County rate during the years 2007-2009.

The areas of the county with the highest rates were:

1. The zip codes 33035 in the Homestead area.
2. The zip code 33149 representing Key Biscayne.
3. The zip code 33146 representing the Coral Gables.
4. The zip code 33144 representing West Miami and the Flagami section of the City of Miami.
5. The zip code 33133 representing the Coconut Grove section of the City of Miami.

